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Canadian Environmental Advisory Council

A Protected Areas Vision for Canada

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Ce rapport est disponible en Français

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August, 1991

The Honourable Jean Charest
Minister of the Environment

Dear Mr. Charest:

I take great pleasure in submitting to you the Council's report on protected areas. We worked diligently to produce the report, and consulted many protected area professionals and conservation leaders in Canada to deepen our own understanding of the complex issues and perspectives that protected areas involve.

During the course of the study it became clear that no single group, agency or level of government could prepare an action plan that would lay out the steps required to achieve the vision promoted in our report. It will take political leadership of the highest order by you and your provincial and territorial colleagues, in partnership with aboriginal peoples, conservation groups, local communities and many others if we are to achieve progress on the vision nation-wide.

The Council encourages you to take leadership within your own area of responsibility as federal Minister of the Environment, and with provincial and territorial ministers through the Federal-Provincial/Territorial Parks Council and other fora. The creation of an intergovernmental task force to review this report and others and make commitments to prepare action plans to achieve the vision in all jurisdictions might be one way in which to advance the agenda. If our report can serve as a catalyst for such action then it will have achieved a major part of its purpose.

We wish you well and offer our continuing support wherever we can help advance decision-making on this important endeavour.

Sincerely,

Dr. Robert Page
Chairman

Acknowledgements

The Canadian Environmental Advisory Council extends its appreciation to the many protected area professionals in universities, federal, provincial and territorial parks agencies, environmental organizations and the private sector coast to coast who shared their knowledge, ideas and time during the period in which this report was produced. Special thanks are due to Kevin McNamee, who served as the principal researcher and interviewer for the study and who contributed extensively to the writing of the report. The Council is grateful to the Canadian Nature Federation for allowing Mr. McNamee to work with CEAC on this challenging project, and our thanks are due to Paul Griss and the board of the CNF for their contribution.

During the course of the study, two workshops were held at which protected area professionals gave expert advice to the Council. On March 3, 1990, in Halifax, the Council gained many insights from Louis LaPierre, Bob Graham, Jane Roots, Neil Munro, Ross Thomasson and Jon Lien. A second workshop was held on March 5, 1990, in Edmonton, at which further advice was received from John McCullum, Jamie Bastedo, Archie Landals, Diane Pachal, Guy Swinnerton and former Council chairman Tom Beck. The Council also benefitted from periodic advice and draft report reviews by Harold Eidsvik, John Carruthers, Clay Rubec, Arlin Hackman and Max McConnell.

The Council gives particular recognition to member Jim Butler, who chaired the Subcommittee on Protected Areas that included Diane Griffin, Glenn Warner and Bob Page, supported at various intervals by past Council members Tom Beck and Stan Rowe. The Council was especially pleased to receive the comments of Ian McTaggart Cowan, one of the first chairmen of CEAC and a long-time leader in the parks and conservation community.

The preparation of the final report drew upon the knowledge and writing skills of Jim Butler, Ken Ogilvie and Tony Cassils. These contributions are gratefully acknowledged. Editorial assistance was received in the early stages of report preparation from Lauren Walker, and in the later stages from Elaine Butler and Susan Morrow, who also gave expert assistance on report layout, photograph selection and content and style changes. Final copy-editing was done by Nina Dell, and final report layout was done by Ove Design Group under the direction of Nicole Vallée. The Secretariat staff at the Council were severely tested by the volume of work and logistics of managing this study, and special recognition is given to Anne Marie Crevier, whose services and patience were invaluable.

Finally, the Council acknowledges the debt it owes to all of the groups and individuals who worked tirelessly to produce the major studies and reports upon which the Council drew extensively in preparing this report. The list includes, but is surely not limited to, the Report of the Task Force on Northern Conservation (1984), the Report of the Minister of Environment's Task Force on Park Establishment (1987), and the Endangered Spaces campaign (1989). The intellectual and practical contributions of these initiatives to the Council's vision for protected areas are profound, so that the vision builds upon the strong foundations already laid.

Canadian Environmental Advisory Council

The Canadian Environmental Advisory Council (CEAC) is a body representing a cross-section of Canadians who are knowledgeable and concerned about the environment. It operates in a confidential advisory capacity to the federal Minister of the Environment. It provides the Minister with an alternative to the advice provided by the Department of the Environment (Environment Canada) and other federal agencies, and to the advice of specific interest groups. The Council's public role, in terms of activities such as the publishing of reports, is secondary to its primary function of providing advice to the Minister of the Environment.

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Benefits of Protected Areas

Ecological benefits

J. Butler

- maintain essential ecological processes, and preserve the genetic diversity of species and the genetic variations within them;
- permit the continued evolution of wild species through natural selection in relatively undisturbed settings;
- provide "environmental services" such as the production of oxygen, the creation and protection of soils, the absorption and breakdown of pollutants, and the amelioration of local and global climates;
- preserve a full range of ecological options for future generations.

CPS M. Beedell

Educational benefits

- promote a deeper understanding of the relationship between humanity and the ecosphere;
- build public support for habitat protection, waste reduction and pollution abatement outside of protected areas.

CPS W. Lynch

CPS W. Lynch

J. Butler

CPS J. Stevens

Scientific benefits

- provide natural laboratories in which to gather and assess information on how ecosystems function and how they respond to change;
- serve as benchmarks against which to measure changes caused by humans or nature.

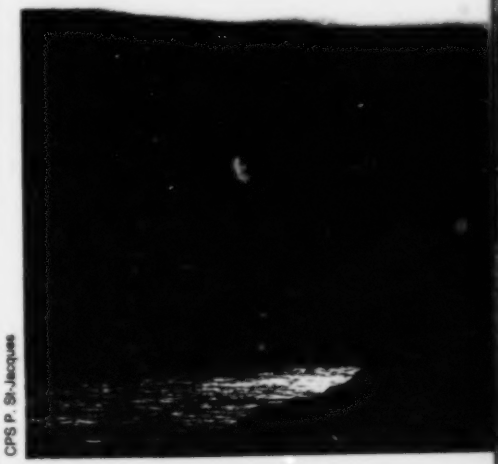
Economic benefits

- preserve genetic stocks that have a vast potential for new foods, medicines and other products (over 50% of modern medicines make use of wild plant or animal species);
- protect habitat for species which are harvested outside of these areas (e.g., fish stocks, migratory wildlife);
- diversify local and regional economies through the tourism associated with parks and wilderness areas;

CPS W. Lynch

- promote non-consumptive recreation for the enjoyment of nature, physical fitness and escape from the pressures of urban living;
- avoid the costs associated with correcting environmental problems after they have occurred.

Cultural and spiritual benefits



CPS P. St-Jacques

- foster national unity among Canadians;
- strengthen cultural identity and heritage values;
- respect the spiritual values of Canada's aboriginal peoples;
- inspire artists, poets, musicians, writers and sculptors;
- ensure the survival of species that symbolize our nation, such as grizzly bears, polar bears and moose.

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Executive Summary

The decade of the 1990s presents an unparallelled opportunity to take specific actions to protect Canada's natural heritage. Never before have so many Canadians expressed such strong sentiments in favour of expanding the amount of land under protected area status. The time has come for action across the nation in support of a common vision.

The Canadian Environmental Advisory Council (CEAC) shares the concern of Canadians over the need to protect representative and unique wilderness ecosystems and natural areas, both on land and in marine and freshwater environments. With the input of leading parks and protected area professionals, CEAC proposes a vision to guide the identification, establishment and improved stewardship of a national network of protected areas, defined in this report as "a collection of natural areas that is protected by legislation, regulation or land-use policy."

The protected areas network would include ecological reserves, national, provincial and territorial parks, wildlife refuges and other designated areas, including private land holdings, that would protect a complete range of natural regions, and wilderness landscapes and seascapes; ensure the protection of flora and fauna within their natural habitat; exclude commercial resource activities such as forestry, mining, agriculture, and hydro-electric power developments; and fulfil Canada's international commitments and obligations to protect species and ecosystems.

CEAC's vision is that by the year 2000, Canada will have established a comprehensive network of protected wilderness areas and natural landscapes. And by the year 2010, Canada will have completed a national marine and freshwater protected areas system that preserves representative and unique natural seascapes and aquatic ecosystems. The protected areas network will be managed on an ecosystem basis, meeting compatible social and economic needs while maintaining protected areas in a wild state. Moreover, protected areas will provide enhanced educational and interpretive opportunities so that Canadian cultural and heritage values can become part of a nationally unifying environmental ethic. In this way, protected areas will become catalysts for the improved management of human activities in all parts of Canada and, as well, through their contribution to international conservation conventions and monitoring networks, for improved global environmental management.

The vision is directed toward strictly protected areas as opposed to what might be termed conservation lands – such as agricultural, forestry, and recreational lands that are protected to a certain degree against damage to their ecological functions and integrity. There is an urgent need to identify additional natural areas that can be protected, since such strictly protected areas are under-represented in Canada and are threatened by large-scale land allocations proposed for development purposes. Only 3.4 percent of the Canadian landscape is currently adequately protected, compared to the guideline contained in the report of the World Commission on Environment and Development and the 12 percent goal promoted by leading conservation groups and the federal as well as some provincial governments.

Central to CEAC's vision is the message that protected areas must be viewed as one form of land use around which other conservation activities can be built. Protected areas are not independent of other land uses; rather, they represent and protect the most significant ecological processes, plant and animal species, and natural features of the nation. They should be viewed as stable reference points around which a more holistic people-nature perspective can be developed. Thus, protected areas must become integral parts of broader sustainable development plans and strategies of governments and round tables on the environment and the economy in every jurisdiction in Canada. Protected areas must also be fully integrated into regional and local land-use planning and into all government land allocation processes.

The report contains many recommendations whose implementation, it is hoped, would result in seven principal outcomes:

1. Greater urgency and expediency in protecting Canada's unique and representative natural areas, landscapes and seascapes, and the reaffirmation of pride in these areas as the natural heritage of the nation and its people;

2. Enhanced quality of stewardship and management of protected areas, ensuring the long-term preservation of their ecological values;

3. A significant shift in focus within the agencies responsible for planning, establishing and managing protected areas, toward greater leadership, partnerships, flexibility, and accountability;

4. Assumption by the federal government of the role of catalyst and facilitator in cooperation with the provinces and territories as they contribute to and expand upon the implementation of a shared national vision;

5. Enhanced opportunities for the public to explore and understand the nation's wilderness heritage;

6. Fulfilment by Canada of its commitments to international conventions and global conservation imperatives, including the exchange of information and the sharing of experiences among people around the globe, thereby demonstrating environmental leadership through example; and

7. A higher quality of life for all Canadians resulting from sharing of the recreational, educational, cultural, patriotic, and economic benefits of protected areas.

Governments alone cannot achieve these outcomes. Partnerships involving many sectors of Canadian society are central to implementing the protected areas vision. Aboriginal and local people have direct interests in the designation and management of a new range of protected areas. Universities and colleges must provide dedicated young people as well as the research and analytical skills required to understand and manage protected areas. Conservation groups assemble financial resources and build public support for protected area programs. They also purchase and manage many small natural areas themselves. Voluntary associations play important cooperative roles in management and the provision of services. Private stewardship is becoming increasingly important to the protection of unique and locally significant habitats and species. All of these partnerships must be nurtured to develop the cooperative framework needed to ensure the completion of the protected areas network and to meet the public expectation and demand for progress on this issue.

CEAC's concluding message is that the completeness and integrity of the protected areas network that we will have in the 21st century will depend on the decisions taken in this decade. Protected areas are among the best investments Canada can make for both current and future generations. This report is dedicated to encouraging all Canadians to make personal commitments to taking action to implement the protected areas vision while the opportunity and the will exist.

1 A Vision for Protected Areas

CPS P. McCloskey

We need the tonic of wildness . . . we can never have enough of nature. We must be refreshed by the sight of inexhaustible vigour, vast and titanic features . . . the wilderness with its living and its decaying trees . . . We need to witness our own limits transgressed, and some life pasturing freely where we never wander.

Henry David Thoreau
Walden, 1854

Canadians need to share a common vision for protected areas. This vision should reflect the evolution of Canadian cultural and heritage values, and the growing public understanding of the environmental threats faced by Canada and the planet. The Canadian Environmental Advisory Council calls upon government leaders, in concert with private groups and individuals, to adopt and promote a vision that will harness the instinctive response of Canadians to the loss of their wilderness heritage, and capture their desire to contribute to global conservation.

The Imperative for Action

This report affirms the importance for Canadians to act quickly and cooperatively to protect unique and representative portions of the country's natural land and seascapes. *Within the next decade,* Canadians must establish a nation-wide network of protected areas that represents Canada's wildlands, wilderness landscapes, marine areas and wildlife habitat. After the year 2000, human activities will have significantly altered many important natural areas, and our ability to establish a comprehensive network of protected areas will be compromised. Large-scale land allocations have recently been made or proposed that will foreclose many of the remaining protected area options. Inaction now will result in major ecological and social losses for future Canadians.

In 1987, the World Commission on Environment and Development, referred to as the Brundtland Commission, issued its landmark report titled *Our Common Future*. The Commission warned that the time had come to make the decisions needed to secure the future of the planet. In Canada, the Task Force on Park Establishment (1986) had already picked up this theme as it related to protected areas and made appropriate recommendations to the federal Minister of the Environment in early 1987. The Task Force warned that mounting pressures on Canadian wilderness and wildlife called for immediate attention on a national scale.

Canada has "strictly" protected a smaller percentage of its landscape than countries such as Norway, Costa Rica, Tanzania, and Zimbabwe, each of which has more than 10 percent of its land under protected area status. According to the World Wildlife Fund (Canada), only 3.4 percent of Canada's land is dedicated to protected landscapes in which logging, mining and hydro-electric power developments are prohibited. If the goal of the Endangered Spaces campaign of the World Wildlife Fund (Canada) – to adequately represent Canada's natural areas – is attained, approximately 12 percent of Canada's land area would be protected.

A "network" of protected areas is defined, in this report, as a collection of natural areas that is protected by legislation, regulation or land-use policy. It includes ecological reserves, national, provincial and territorial parks, wildlife refuges and other designated areas, including private land holdings, that would:

- protect a complete range of natural regions, and wilderness landscapes and seascapes;
- ensure the protection of flora and fauna within their natural habitat;
- exclude commercial resource activities such as forestry, mining, agriculture, and hydro-electric power developments; and
- fulfil Canada's international commitments and obligations to protect species and ecosystems.

Canada possesses a high percentage of partially protected "conservation lands" – agricultural, forests, and recreational – but they do not meet the definition of "protected area" used in this report. There is an urgent need to identify additional natural areas that can be protected with legal designations and other institutional assurances to

J. Butler

guarantee their continued protection and proper management. This report is devoted to these strictly protected areas, which are currently under-represented and face the greatest immediate threat.

Changing Perceptions

Canadian perspectives on wilderness have often been ambivalent. Many have seen natural areas as vast, unoccupied spaces to be tamed and exploited. Natural resources promised economic growth, profits and employment. They were considered limitless and free. Although this view has been challenged in recent years, it was the dominant view throughout much of Canada's history and its influence persists today. As civilization spreads and wilderness vanishes, however, an increasing number of Canadians see natural areas as something to understand, appreciate, and protect. Natural areas are considered by many people to have intrinsic worth and to be necessary for our long-term prosperity and quality of life. They form an essential part of the identity and culture of Canada's aboriginal people and, indeed, of most Canadians.

The view of protected areas as sites for outdoor recreation and personal rejuvenation is expanding to include their more essential role of protecting biological resources and ecosystems. The world's biological resources are limited, and either we maintain areas for natural biological production or biodiversity and wildlife population numbers will decrease through the elimination of species and habitats due to the unwise allocation and use of land and water. The current high rate of loss of biological diversity and biological productivity are unprecedented threats to the nation and the planet.

The conflicts that arose in past decades over development versus the environment, and even conservation versus preservation, will intensify in the 1990s because our economic strength as a nation is no longer assured by an abundance of natural resources such as unaltered forests, fertile soils, and clean water. They will further intensify because Canadians feel the impending loss of their natural heritage. The tradeoffs between unconstrained development and the protection of wilderness areas are becoming visible and disturbing. A more educated public attitude toward the environment is causing a shift in values. "Quality of life" is surfacing as a central goal in society, and a more biocentric (in contrast to homocentric) perspective suggests that we must learn to share the planet with other life forms. Wilderness, wetlands and old-growth forests are vanishing, and the option to protect these treasures is being foreclosed just as we are beginning to appreciate their ecological, economic, educational, scientific, and cultural significance.

CPS B. Olsen

Global Affirmation of the Need for Action

The World Charter for Nature (1982) called for special protection to be given to unique and representative samples of all the different types of ecosystems, and the habitats of rare or endangered species. A gathering of world experts in 1982 at the third World National Parks Congress in Bali, Indonesia, concluded that national parks and protected areas are indispensable to conservation, and that they contribute to sustaining human societies. The Bali Action Plan proposed that a worldwide

CPS W. Lynch

network of national parks and protected areas be established by 1992 to cover all terrestrial ecological regions. The Brundtland Commission (1987) acknowledged the international consensus reached at the Congress and reaffirmed the importance of protected areas to global conservation.

In attempting to reconcile the development of natural resources with the need to protect the planet, the Brundtland Commission concluded that the protection of species and ecosystems is a prerequisite to sustainable development. The Commission recommended the establishment of a global network of protected areas that would represent the diversity of the planet's ecosystems, and the adoption of strict conservation practices across the rest of the landscape. This insight into the need for both protected areas *and* conservation practices is referred to in this report as the "two-pronged approach" to sustainable development.

The first world inventory of wilderness (1988) concluded that human civilization dominates two thirds of the planet, and nature dominates one third. It suggested that only globally is there still an opportunity to maintain some balance between "man and nature." While this ratio was reversed in the analysis of Canada (only wilderness units of 400,000 hectares or more were considered), the report concluded that the remaining "wilderness of the Nearctic Realm (principally in Alaska and northern Canada) is likely to disappear primarily in response to pressure for more oil and gas development and other mineral development." The inventory established that 108 countries no longer possess any large wilderness tracts. In these countries, options for maintaining natural ecosystems have already vanished.

Together, the Task Force on Park Establishment, the Bali Action Plan, the World Charter for Nature, and the Brundtland Commission establish a clear objective: a network of protected areas representing a complete range of the nation's diversity of natural land and seascapes must be completed by the end of the century. This objective is the foundation of the World Wildlife Fund (Canada) Endangered Spaces campaign, and it is the starting point for CEAC's proposed vision for protected areas.

J. Butler

The Canadian Circumstance

Canada has exploited its natural resources to achieve one of the highest standards of living in the world. If properly managed, these resources can continue to support a high quality of life. Moreover, Canada still has the opportunity to preserve large tracts of wilderness. But we can easily suffer the fate of other nations, such as Switzerland, Germany and Britain, which have no true wilderness left to protect. Human activities have modified their landscapes over the centuries and a precious part of their natural heritage has been lost.

Large tracts of wilderness and many small, yet important, ecological areas still exist in Canada that would permit the completion of a comprehensive network of protected areas. The boreal forest and temperate rainforest, tundra, and Arctic regions are global rarities that require immediate protection as large-scale allocations of land for development purposes have been proposed or confirmed in these areas.

The relatively small amount of land in Canada that is managed strictly for ecological conservation illustrates the low priority many governments have placed on the protection of special natural environments. Over 80 percent of Canada's prairie grasslands have been lost to agriculture and urban development. Less than 10 percent of the Carolinian forests of southwestern Ontario or the shrublands and grasslands of the Great Basin area of the Okanagan Valley of British Columbia remain. In these areas, opportunities to preserve large tracts of wild habitat have been lost forever.

CPS M. Beedell

Across Canada, 213 plant and wildlife species have been officially designated as endangered, threatened or vulnerable. Moreover, the ability of Canada's increasingly urbanized population to see and experience wild places is also constrained. These realities underscore the urgency with which we must act to identify and protect representative and unique natural areas before they are lost forever.

Wilderness Management, a textbook widely used in universities, describes the Canadian paradox of how a northern country appearing "unbelievably huge and empty . . . elicits frontier attitudes toward the land," with the result that "the urgency for wilderness protection is lessened." In a global overview of governmental commitment to protecting wildlands, the authors summarize the dominant attitude as "Why worry?" and conclude that "the wilderness preservation movement in Canada lags behind that in the United States, where the frontier vanished nearly a century ago."

According to the Endangered Spaces campaign, of the more than 250 natural regions defined to date by the provincial and territorial governments, well under half are adequately represented by protected areas. The majority of these regions are poorly understood, and their existing protected areas are generally too small to be ecologically stable and too under-funded to be managed effectively. Newfoundland, New Brunswick, Prince Edward Island and the Northwest Territories have not adopted natural regions maps (although such maps have been prepared and published by the scientific community), but many protected areas have been established in these jurisdictions. Nova Scotia and the Yukon have yet to assess representation within their natural regions.

The face of the Canadian landscape has changed in the last century. Natural areas no longer exist in isolation from economic development policies and decisions. To maintain natural areas for future generations, protected areas must be identified and established *now*, while the opportunity still exists.

The question is no longer whether Canada should complete a national network of protected areas, but how this can be done in the time available.

The Protected Areas Vision

Protected areas play a central role in preserving a full range of representative ecosystems, including wild rivers, critical wildlife habitat, temperate rainforests, alpine valleys and boreal forests. They draw the public to Canada's wilderness lands. They offer alternatives to urban settings, and provide visitors with brief, yet powerful, experiences of nature that enhance understanding of the connection between humanity and the ecosphere. They anchor the sustainability concept and illuminate ideas of careful land-use planning.

CPS R. Dore

Because the protection of a small fraction of land and sea cannot guarantee our common future, protected areas must do more: they must stimulate personal commitments to environmental protection. The whole of the Canadian landscape must be sustained, both within and outside protected areas; therefore, if protected areas do not inform and inspire society to apply a land ethic in all human activities, they fail in their essential mission. Thus, the two-pronged approach is essential: to strictly protect unique and representative ecosystems within protected areas (including better management of many areas that already have protected area status); and, to apply conservation practices outside protected areas to activities such as forestry, agriculture and fishing.

CEAC's vision is that by the year 2000, Canada will have established a comprehensive network of protected wilderness areas and natural landscapes. And by the year 2010, Canada will have completed a national marine and freshwater protected areas system that preserves representative and unique natural seascapes and aquatic ecosystems. The protected areas network will be managed on an ecosystem basis, meeting compatible social and economic needs while maintaining protected areas in a wild state. Moreover, protected areas will provide enhanced educational and interpretive opportunities so that Canadian cultural and heritage values can become part of a nationally unifying environmental ethic. In this way, protected areas will become catalysts for the improved management of human activities in all parts of Canada and, as well, through their contribution to international conservation conventions and monitoring networks, for improved global environmental management.

This vision for protected areas is challenging. It is essential, however, that Canadians embrace the vision if it is to guide actions along a pathway that is sustainable for longer than the next two generations. Decisions taken during the next ten years will largely determine both the completeness and the integrity of the protected areas network that Canada will possess in the 21st century. The purpose of the vision is to raise our sights, elevate our spirits and direct our efforts toward a more stable and healthy future.

Recommendations

To demonstrate leadership and commitment to the protected areas vision, the federal, provincial and territorial governments should:

1. By the end of 1992, make formal cabinet decisions to complete their terrestrial protected area systems by the year 2000, and where appropriate, complete their marine and freshwater protected area systems by the year 2010.

2. Modify policies, programs and resource allocations to ensure that protected areas and their surrounding lands and waters are managed on an ecosystem basis.

3. Significantly enhance educational and interpretive programs within protected areas, and use such programs to promote an environmental ethic among Canadians as well as foreign visitors.

2 Historical Roots of a Protected Areas Vision

CPS

The day will come when the population of Canada will be ten times as great as it is now, but the national parks ensure that every Canadian . . . will still have free access to vast areas possessing some of the finest scenery in Canada, in which the beauty of the landscape is protected from profanation, the natural wild animals, plants, and forests preserved, and the peace and solitude of primeval nature retained.

James B. Harkin, Commissioner
Dominion Parks Branch (c. 1920)

Canada's system of national parks and protected areas was born at the close of the 19th century, a time characterized by rapid industrial expansion. Because of the predominance of industrial values in our society, efforts to preserve wilderness landscapes reflect a century of conflict over the use and protection of natural resources. Protected area values, however, have survived and are becoming central to global conservation efforts.

The First Parks and Protected Areas

The idea of a "nation's park" was first proposed by American landscape painter George Catlin in 1832. He advocated "a great government policy for protection" because he foresaw the loss of the wild prairie to human development, the demise of the buffalo, and the devastating effect both would have on the plains Indians.

Action by the U.S. Government to protect the Arkansas Hot Springs in 1832 and to establish the world's first parks at Yosemite in 1864 and Yellowstone in 1872 set the precedent for similar action in Canada. In 1885, the Conservative government of Sir John A. Macdonald established Canada's first national park, Banff, to preserve the mineral hot springs from private exploitation.

Protected areas were not just the purview of the federal government. Several jurisdictions established parks to offset the bustling tempo of industrial life in North America. Montreal created Mount Royal Park in 1872. In 1893, Ontario established the nation's first provincial park, Algonquin, to protect the region's declining natural resources and to provide recreational opportunities. Quebec quickly followed suit with the creation of Laurentides Provincial Park in 1895.

As part of its National Policy of 1880 and beyond, which emphasized economic development based upon the use of natural resources, the Macdonald government promoted the commercial value of Canada's early national parks. Construction of the transcontinental railway and the development of western Canada's resources were key elements in the National Policy. Both the government and Canadian Pacific Railway profited from the tourists who travelled the railway from central Canada to visit and enjoy the hot springs, clean air, splendid hotels, and the Rocky Mountain scenery of Banff and Glacier national parks.

In addition to tourism, early national park management policies reflected what historian Robert Craig Brown termed the federal government's "doctrine of usefulness." To maximize the commercial value of the parks, grazing, lumbering and mining were allowed within park boundaries. While some people recognized the need to conserve natural resources such as forests and wildlife within parks, few saw the contradiction between the purpose of national parks and the continuation of resource extraction.

Conflicting Philosophies on Wilderness

Conflict between the philosophies of utilitarianism and preservation of natural resources intensified in the early 20th century. While advocates of the utilitarian philosophy believed in the development of all natural resources to meet the needs of modern society, preservationists advocated the protection of selected natural areas, free of commercial use, for the benefit of future generations.

In the United States, the building of a dam in the Hetch-Hetchy Valley inside Yosemite National Park, proposed as an inexpensive water supply for San Francisco, exemplified the conflict. John Muir and Gifford Pinchot, two of America's leading conservationists, found themselves on opposite sides of the debate, never again to speak to one another. The dam was authorized to

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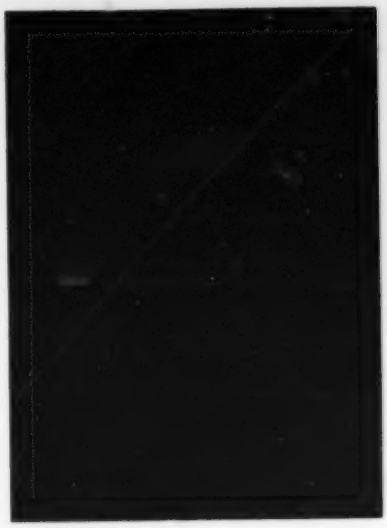
proceed in 1913, and parks and wilderness groups launched a new era of public advocacy. A parallel issue occurred in Canada a decade later with the 1923 proposal to construct a hydro-electric power dam in Banff National Park. The Calgary Power Corporation wanted to dam the Spray River, which was then part of a larger Banff National Park. This led to the creation of the first organized opposition to industrial development in parks in Canada, with the formation of the Canadian National Parks Association. Opponents of the dam project argued that national parks should be protected from commercial resource development.

John Muir



James B. Harkin

CPS W. Lynch

The federal government approved the construction of the dam and reduced the size of Banff National Park in order to exclude the proposed Spray Lakes reservoir from park boundaries. As a compromise to its opponents, the government passed the National Parks Act in 1930 prohibiting any future mining, hydro-electric dams or commercial forestry within national parks. This action entrenched preservation policy as a foundation of federal parks management. Thus, federal parks policy diverged from practices in many provincial parks, which often tried to meet the needs of both resource extraction and conservation.

Reshaping National Parks Policy

Unlike the United States, where conservation groups provided early leadership in shaping conservation policy, dedicated public servants shaped the first conservation programs in Canada. James B. Harkin, the first commissioner of the Dominion Parks Service, which was established in 1911, was deeply aware of the importance of protecting wilderness. Harkin was influenced by the writings of John Muir, a strong advocate for national parks, who promoted the preservation of wilderness for its spiritual benefits and as an antidote to the dehumanizing aspects of a modern industrial and urban society. Harkin believed that Canada was obliged to guard its treasures of natural wonders and beauty for future generations, and that people had the right to share in the use and enjoyment of the noblest regions of their own land.

By 1932, the Dominion Parks Branch, under Harkin's guidance, tripled the number of national parks in the system from 6 to 18. Also, the branch expanded the system from its initial western base by establishing a national park in almost every province and phased out incompatible extractive activities such as logging and mining.

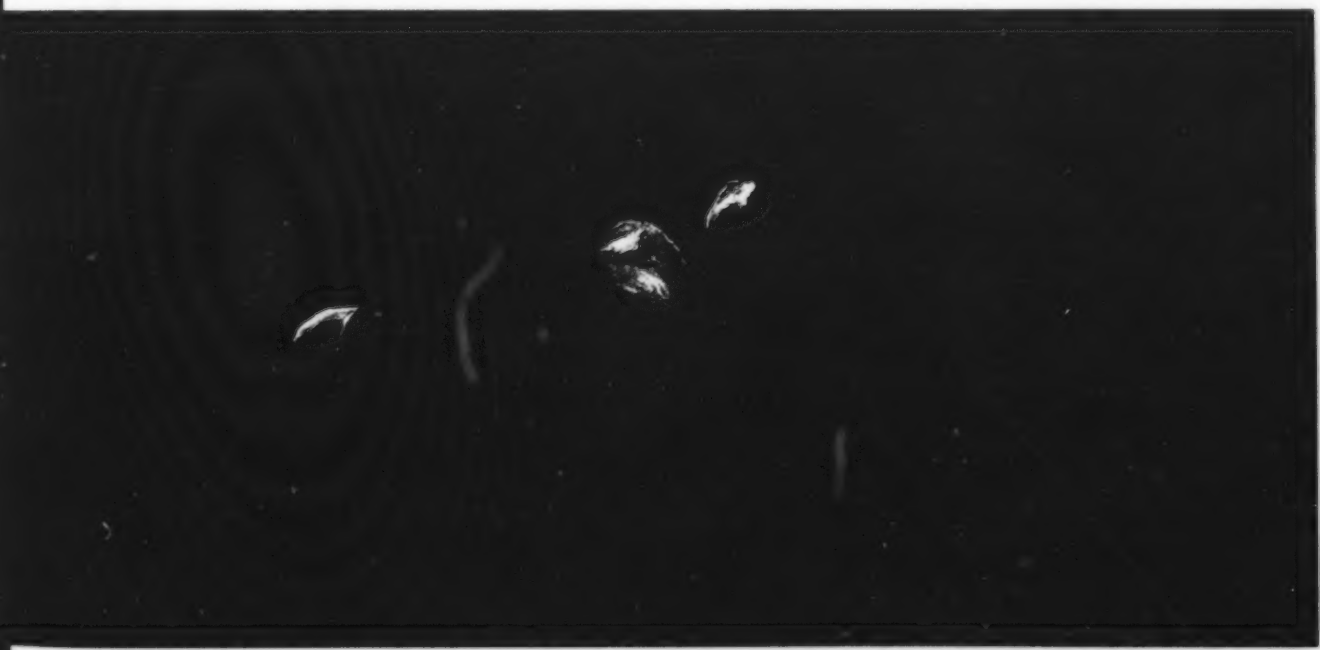
With increasing industrialization and urban development in the 1940s and 1950s, the Canadian public began to recognize that parks and wilderness areas were becoming threatened. In the 1960s, the public started to support wilderness preservation activities. This new movement emerged in response to a concern that natural areas and landscapes in post-war society were endangered. A decline in environmental quality, a perceived loss of wilderness lands and growing threats to existing protected areas energized citizens to demand further government action to protect natural areas.

Public advocacy groups such as the National and Provincial Parks Association of Canada (now the Canadian Parks and Wilderness Society), the Alberta Wilderness Association and the Algonquin Wildlands League were established to promote the expansion of protected area networks and the value of parks as unexploited wilderness. Proposals for industrial and expansive tourism developments within wilderness parks were vigorously opposed, and sometimes defeated, by citizens' organizations who demanded the protection of the environmental integrity of these areas. In response to such pressure, the federal government adopted Canada's first comprehensive National Parks Policy in 1964, which established the preservation of significant natural features in national parks as its "most fundamental and important obligation."

The Future of the North and Protected Areas

The development of Canada's north became the focus of a national debate over the use and protection of the nation's natural resources and wilderness areas in the mid-1970s. The seeds of this debate were sown in the late 1960s with the leasing of large tracts of land in Arctic Canada for oil and gas exploration. Protection of the North's special ecosystems was viewed as critical, given the biological fragility of such environments.

Northern people strongly conveyed the need to protect the environment to Justice Thomas Berger, and he reflected this concern in his report on the Mackenzie Valley Pipeline Inquiry. Berger interpreted the interest of northern residents as an opportunity to dedicate lands to conservation in advance of, rather



CPS W. Lynch

than in response to, development. More significantly, Berger drew national attention to the clash of industrial and environmental values in the North, focusing on the cultural values of northern aboriginal people. Northern people identified the protection of the natural environment and the wildlife that roam these fragile northern landscapes as fundamental to their culture, their survival, and their future prosperity. Berger reflected this perspective in his recommendation that a wilderness park be established across the northern Yukon to protect the Porcupine caribou herd. In 1984, the federal government established the Northern Yukon National Park as part of the Western Arctic Inuvialuit Land Claims Agreement, thereby acting on Berger's recommendation.

The creation of Northern Yukon National Park made Catlin's vision a reality — a nation's park protecting the wildlife that aboriginal people depend upon. It also set a precedent for the use of land claims to establish national parks and other protected areas that protect traditional aboriginal ways of life.

Today, land-claim settlements, land-use planning, and conservation strategies are all pointing toward a future for the North that is based on protecting wildlife habitat, establishing a network of protected areas, and conserving important natural features across the entire landscape.

Reaffirming the Value of Protected Areas

The 1980s witnessed a major conservation achievement. In 1983, the Government of Ontario established 155 new provincial parks and in one decision dedicated an unprecedented 2 million hectares of provincial lands to conservation in the provincial parks system. The new parks were established as part of an overall provincial land-use plan for Crown land.

The 1980s also saw an increase in the frequency of conflicts over the use and allocation of an ever decreasing supply of wilderness lands. Canadians marched, picketed, created acts of civil disobedience and signed numerous petitions to protect wilderness areas such as South Moresby (British Columbia), the Oldman River (Alberta) and Temagami (Ontario). The battle to protect the South Moresby archipelago initiated an unprecedented national debate over the future of Canada's wilderness landscapes.

CPS, B. Olsen

Ultimately, the South Moresby debate raised national awareness of the need to protect wilderness lands. But despite a century of experience in establishing parks and other types of protected areas, Canada has allocated a relatively small percentage of the landscape to a protected areas network.

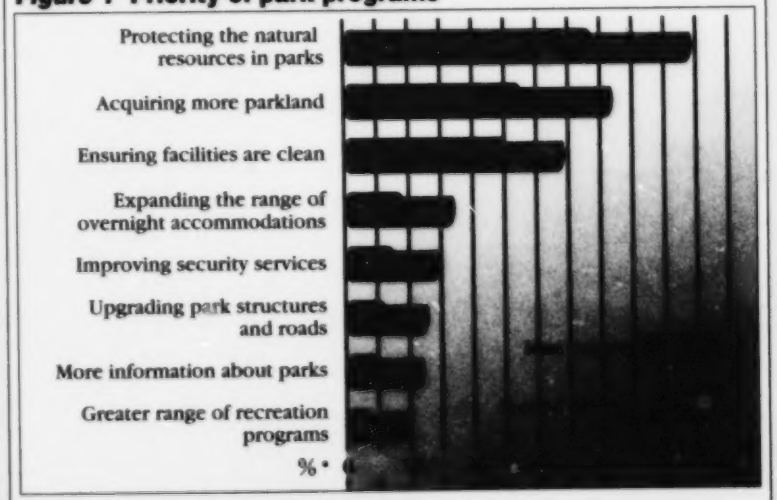
Public pressure is essential to achieve the political action necessary to complete the protected areas network across Canada. Protected area programs are not significant items on many political agendas, and all governments have not yet fully acknowledged protected areas as part of their broader environmental and sustainable development initiatives. The public, however, strongly supports the need to protect wilderness and wildlife. More than 250,000 Canadians have signed the "Canadian Wilderness Charter" of the Endangered Spaces campaign that endorses a target of protecting 12 percent of the Canadian landscape.

Polls Lend Support to Protection

Government action to establish protected areas is influenced by public perceptions and support. Recent polls demonstrate a high level of support for CEAC's proposed protected areas vision:

- In a February 1990 Angus Reid poll commissioned by the Canadian Nature Federation, six out of ten Canadians were in favour of at least doubling the amount of land protected as wilderness. Three quarters of the respondents felt that governments were paying inadequate attention to the problem of threatened species and natural habitat.
- Over half of the respondents to a 1989 Environics public opinion poll commissioned by Forestry Canada stated that wilderness preservation and wildlife protection were the most important uses of Canada's forests.
- In a British Columbia Parks survey, respondents ranked the protection of natural resources in parks and the acquisition of more park land as the top two priorities for the provincial parks program. The desire for protection and further acquisition exceeded public demands for more facility and recreational developments (Figure 1).
- A 1987 Decima poll revealed that seven out of ten Canadians believe that logging, mining and hydro-electric power developments within parks cause harm to the environment.
- In a 1987 Gallup poll, over 95 percent of Canadians surveyed supported government expenditures on the protection of wilderness, with this support cutting across both regional and socio-economic categories.

Figure 1 **Priority of park programs**


Protecting the natural resources in parks
Acquiring more parkland
Ensuring facilities are clean
Expanding the range of overnight accommodations
Improving security services
Upgrading park structures and roads
More information about parks
Greater range of recreation programs
%*

* percent of respondents, based on 2,565 respondents

Ministry of Parks, 1990

3 Establishing a Network of Protected Areas

J. Butler

In Canada and Alaska there are still large expanses of virgin country . . . a representative series of these areas can, and should, be kept. To what extent Canada and Alaska will be able to see and grasp their opportunities is anybody's guess.

Aldo Leopold
A Sand County Almanac, 1949

The Brundtland Commission challenged all nations to protect their diversity of species and ecosystems, calling this a prerequisite to sustainable development. Thus, to truly achieve sustainable development, Canada must identify and protect a complete range of representative and unique natural areas, wilderness landscapes and wildlife habitat.

Foundations for Establishing the Network

A network of protected areas must not be viewed as something separate from people and from the rest of the landscape. Rather, it is an integral part of the global sustainable development agenda. Its purpose is to inform and inspire people to live more compatibly with this planet, while ensuring that an adequate and important part of the natural environment is allowed to evolve without impairment by human activity and development.

The third World National Parks Congress thoroughly discussed the conceptual foundations for establishing and managing protected areas and concluded that a priority should be placed on protecting representative areas. The concept of "representation" is a subject of much continuing debate. It encompasses notions such as biological, geographical and physiographic diversity, and the representation of such features in a protected area in proportion to their original numbers and extent in the natural region. Safeguarding biodiversity means identifying and protecting the full range of ecosystems, species and genetic variations found across the Canadian landscape and seascape. Representative areas should also encompass ecological processes such as succession from young forests to old-growth forests. Whether representation can be accomplished in a single site or multiple sites is a question that can only be answered in specific cases.

In the past, many different types of protected areas have been established that reflect interests in tourism, spectacular visual landscapes, and the protection of species and ecosystems. Over time, the evolution in thinking on the values and benefits of protected areas has changed the nature of governmental responses. Now, increasing emphasis is placed on networks of protected areas that are biogeographically diverse, and which protect species and habitats and preserve natural beauty.

There are, however, common reference points upon which to build a national network, such as the World Conservation Union (IUCN) categories of protected areas. In addition, several Canadian studies and task forces have recommended criteria for the selection of protected areas.

There are three elements to consider when developing and completing national and regional networks of protected areas: network design, site selection criteria and protected area categories (types).

Network Design

The following steps, designed by the IUCN, outline a systematic ecological approach that can be used to identify and establish a network of protected areas in Canada:

1. Identify the major biogeographic divisions or natural regions of Canada, and establish a system of parks and protected areas that represents the natural features in each region.

2. Establish, as a priority, large, major ecosystem reserves, such as national, provincial or territorial parks, within each biogeographic division or natural region. These reserves should include a continuum of many habitat types and preserve the most biologically productive and diverse examples of those habitats.

3. Establish smaller protected areas, such as ecological reserves or nature parks, that supplement and complement the major conservation reserves by protecting additional habitat types, or by covering regional variants of habitat.

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4. Include sites that provide recreational, educational or research facilities, or that protect special interest, scenic or wilderness landscapes.

5. Include some small reserves to protect specific localized sites, such as nesting areas of important species, caves, wetlands or special geological features.

Priority must be placed on protecting representative natural areas. They are the cornerstone of a network of protected areas because of their significant contribution to conserving biological diversity and sustaining ecological processes. Natural areas with the greatest diversity of natural themes (biological, geographical, physiographic, geological and oceanographic) should be protected with little or no modification of the natural landscape or seascape.

A single representative area in each natural region may not be sufficient. In the event that one representative area is destroyed by natural or human-induced forces, a second similar area would ensure the survival of a comparable ecological habitat or theme. Manitoba is contemplating three ecological reserves for each natural theme – one for research, one for education, and one for insurance purposes.

The presence of a protected area does not ensure that all of the natural features in a particular region are represented. Therefore, a high priority and major challenge is to define the parameters under which a natural region is deemed to be adequately represented. The Canadian Council on Ecological Areas has initiated work on this issue.

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Protected areas are increasingly viewed as being central to the protection of biological diversity. To accomplish this objective, the principles of conservation biology must be more aggressively applied to the design and management of protected areas. These principles include:

- the incorporation of sufficient habitat to sustain populations of native species of plants and animals (a viable population has a 99 percent probability of surviving for 100 years);

- the identification and monitoring of indicator species most sensitive to human land-use practices and with the largest spatial requirements for population viability;

- the establishment and protection of habitat corridors that connect protected areas in functional networks and allow for the movement of plants and animals among reserves; and

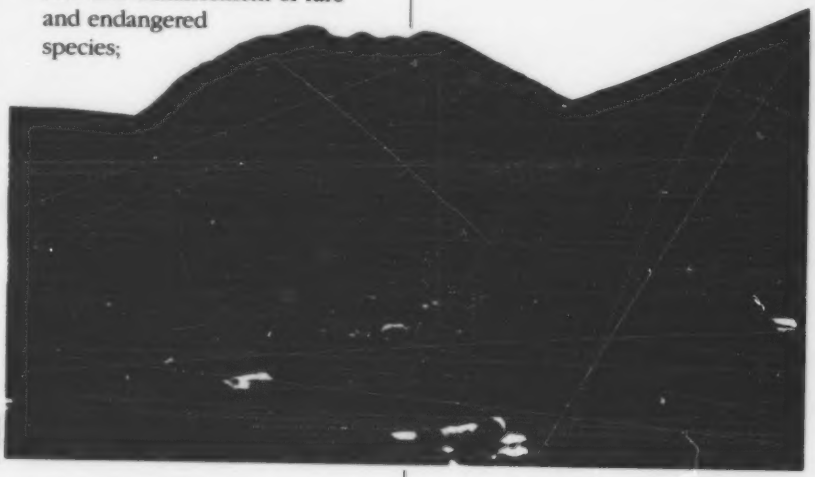
- the incorporation of protected areas into overall land-management strategies that emphasize a gradation of buffer zones and compatible human activities outside of protected areas.

"Establishing" protected areas is largely a political process. The IUCN steps provide a scientific approach to assist in locating candidate areas. Social, economic and political factors are fundamental to final selection, and include such considerations as tourism potential, regional economic development, existing land-use commitments and the extent of local support for protected areas.

Site Selection Criteria

The Task Force on Northern Conservation (1984) developed a list of selection criteria that is applicable to all of Canada. To qualify for consideration as a protected area, the Task Force suggested that land and/or water would have to contain one or more of the following:

- outstanding examples of representative land or seascapes;
- sites necessary for the preservation of genetic diversity;
- habitat essential for the preservation and enhancement of rare and endangered species;



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- habitat essential for the survival of a significant population of migratory birds, terrestrial or marine mammals, or marine or freshwater fish populations;
- areas or sites of significant cultural, archaeological, historical or traditional resource-gathering value;
- examples at specific sites of outstanding or unique landforms or geological features, such as the pingos of the western Arctic; and
- outstanding areas for public recreation and tourism.

CPS W. Lynch

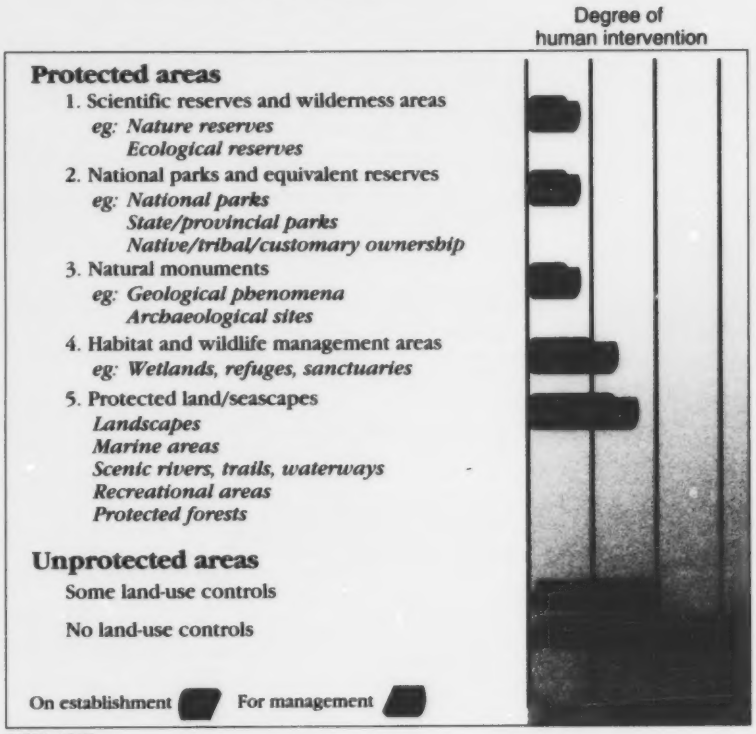
Several criteria can be met within one protected area. For example, a national park can protect both a representative landscape and traditional resource-gathering sites for aboriginal people.

Governments and planning agencies should incorporate these criteria into the decision-making processes for all land allocations. These criteria should also become an integral part of environmental impact assessments of all development proposals.

Protected Area Categories

A variety of protected area categories should be used to ensure the protection of natural areas. There is no single, definitive type of protected area; rather, protected area categories range from strictly protected areas, such as ecological reserves, to areas where the consumption of natural resources is permitted as long as the principle of sustainability is foremost. Historically, protected areas were viewed as a government responsibility; however, the protected areas concept has evolved to include private stewardship lands and tribal parks managed by aboriginal people.

Figure 2 A framework for terrestrial and marine protected areas



IUCN, 1990

The overall objective for protected areas, as expressed by the IUCN (1990), is as follows:

- To fulfil private, local, national and international responsibilities in marine and terrestrial protection; and to recognize, protect and present, both directly and indirectly, places which are significant examples of the world's heritage in ways that encourage public understanding, appreciation, enjoyment and use of this heritage in a sustainable manner.

Since 1978, the IUCN has promoted a classification process in which ten protected area types were grouped into three categories. These categories have recently been revised, and a new "Framework for the Classification of Terrestrial and Marine Protected Areas" has been adopted by the IUCN Commission on National Parks and Protected Areas (see Figure 2).

The categories shown in Figure 2 do not form a hierarchy of protected areas. Each protected area category has a different role, and all of the categories must be considered together in terms of conserving biological diversity and addressing national and global resource management needs. The IUCN has clearly stated that the relatively small percentage of land dedicated to protected areas will not, by itself, ensure their ecological integrity or the retention of their biological diversity.

A brief description for each of the five protected area categories in Figure 2 follows:

Category I – Scientific Reserves and Wilderness Areas

These areas are largely free of human intervention. They are available primarily for scientific research, environmental monitoring and non-mechanized, non-disruptive forms of wilderness recreation.

Scientific Reserves maintain essential ecological processes and preserve biological diversity in an undisturbed state. These reserves protect representative examples of the natural environment for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state. Research activities need to be planned and undertaken with care to minimize disturbance.

Wilderness Areas incorporate all of the objectives of Scientific Reserves. As well, "wilderness" is defined as an enduring natural area protected by legislation and of sufficient size to protect the pristine natural environment that supports physical and spiritual well-being. These areas have little or no persistent evidence of human intrusion, allowing natural processes to take place largely unaffected by human intervention.

Category II – National Parks and Equivalent Reserves

National Parks are relatively large, outstanding natural areas managed by nationally-recognized authorities. They are established to protect the ecological integrity of one or more

ecosystems for this and future generations, and exploitation or intensive occupation of these areas is prohibited. National Parks, as large conservation areas, generally support a range of functions, from Scientific Reserves and Wilderness Areas to recreation and tourism facilities.

Equivalent Reserves are outstanding natural areas managed by provincial or territorial governments, tribal councils, foundations or other legal bodies that have dedicated the areas to long-term conservation. In all other respects an Equivalent Reserve must meet the criteria established for Category II.

The objective of National Parks and Equivalent Reserves is to protect natural and scenic areas of national or international significance for spiritual, scientific, educational, recreational and tourism purposes. This category should perpetuate, in a natural state, representative samples of physiographic regions, biotic communities and genetic resources, and species to provide ecological stability and diversity.

J. Butler

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Category III – Natural Monuments

The objective of this category is to protect and preserve outstanding natural features for their special interest, or unique or representative characteristics and, to the extent consistent with this objective, to provide opportunities for interpretation, education, research and public appreciation.

These features are not large enough, nor do they contain a sufficient diversity of features required to justify a National Park designation.

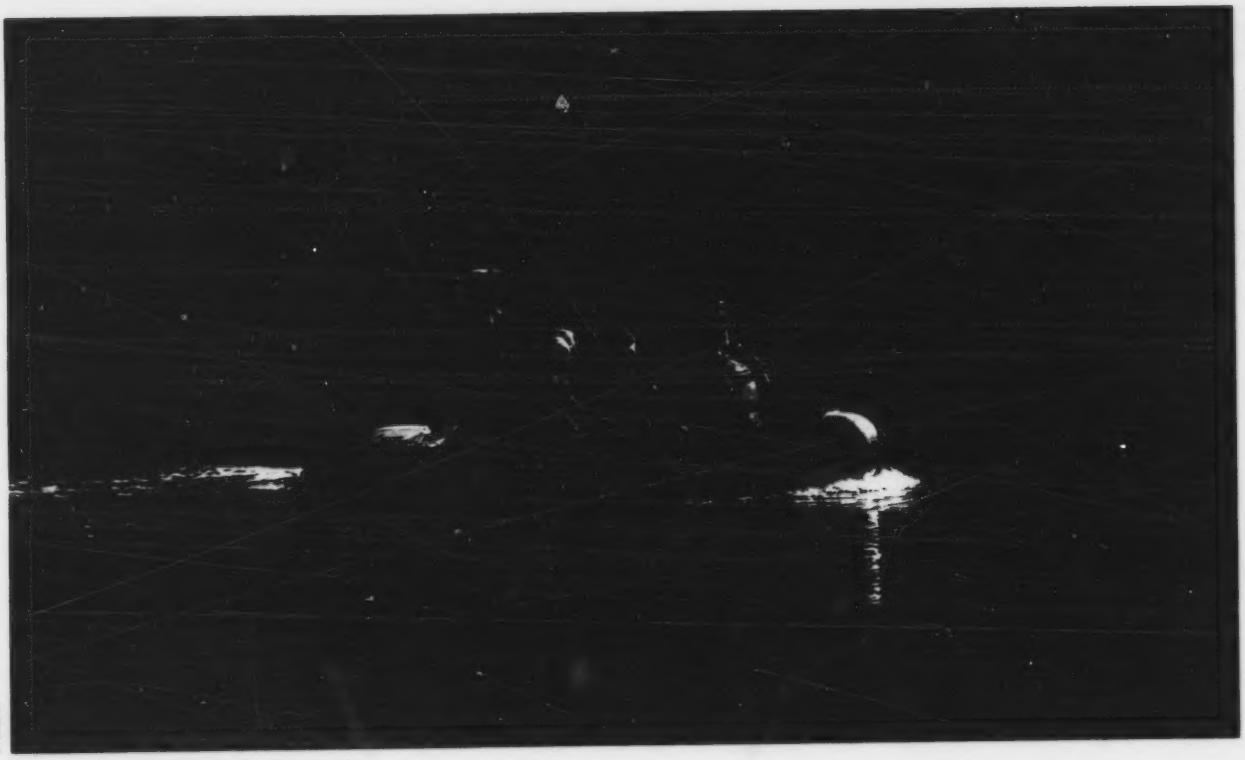
Category IV – Habitat and Wildlife Management Areas

Habitat and Wildlife Management Areas are subject to human intervention for the purpose of conducting research on the nesting, feeding and survival requirements of specific species. Maintaining sustainable wildlife populations, as well as protecting rare and threatened species, is an integral function of these areas. Scientific research, environmental monitoring and educational use are the primary activities associated with sustainable resource management in this category.

A Category IV designation is desirable when the protection of specific habitats is essential to the continued well-being of resident or migratory fauna. Although a variety of areas fall within this category, each would have the protection of nature and the survival of species as its primary purpose. The production of harvestable, renewable resources may play a role in management.

Category V – Protected Landscapes/ Seascapes (Ecosystem Conservation Areas)

The objective of this category is to maintain significant areas that characterize the harmonious interaction between nature and culture. These areas should provide opportunities



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for public enjoyment through recreation and tourism while supporting normal lifestyles and economic activities. They can serve scientific and educational purposes as well as maintain biological and cultural diversity. Natural or scenic areas along coastlines and lake shores, in hilly or mountainous terrain, along the shores of rivers, or inland adjacent to important tourist highways or population centres are often included. Many have the physical qualities and potential to be developed for a variety of outdoor recreational uses.

Category V is the most complex of the five conservation categories. Areas in this category are frequently very large, and often incorporate sophisticated planning techniques in multi-zoning and eco-development areas. Thus, they may incorporate characteristics of National Parks, Scientific Reserves, Natural Monuments, and Wildlife Management Areas. Each of the previous four categories may appear as zones within Category V areas.

In general, Category V areas incorporate rural agriculture, villages, towns and other communities as well as selective forestry and wildlife management projects. Recreation and tourism are significant elements in their management.

Implementing the Network

A consistent, scientifically based rationale is desirable for the design of a national protected areas network. It is beyond the scope of this document to propose a detailed framework; however, CEAC is encouraged by some of the work that is being done on this subject at both the federal and provincial levels.

One example of work at the federal level is the "Terrestrial Ecoregions of Canada" framework developed by the Canada Committee on Ecological Land Classification and promoted by the Canadian Council on Ecological Areas (CCEA). This framework will be used by the CCEA for national evaluation and general system planning purposes. The database for the framework has evolved over 30 years, drawing on expertise in federal and provincial agencies, and on the coordinating role of the Canada Committee on Ecological Land Classification.

The terrestrial ecoregions approach is illustrated by Figures 3a, 3b and 3c. Overall, it identifies 15 "ecozones," 40 "ecoprovinces," 177 "ecoregions," and 5,400 "ecodistricts" (not shown), based upon ecological responses to climate as expressed by vegetation, soils, water and fauna. The maps divide the Canadian landscape into increasingly smaller ecological land

units that can be used to guide the various stages of development of the protected areas network. In essence, the terrestrial ecoregions approach results in a detailed geographical framework to locate and evaluate where protected areas exist as well as to identify gaps and priorities for future expansion of a Canadian network of protected lands and waters. The federal government adopted the terrestrial ecozones maps as the framework for State of the Environment reporting in 1985, and will use them in the 1991 State of the Environment Report. Provincial jurisdictions have used similar approaches to develop maps, but with variations, such as in British Columbia where topographic and climate influences are included.

The ecozones map (Figure 3A) shows 15 large, relatively homogeneous ecozones, closely approximating the distinctive biomes associated with landscapes such as the boreal forest, Arctic tundra, prairie grasslands and mountain cordillera. This map has been used as an assessment framework by many groups, including Wildlife Habitat Canada in a 1986 report on the status of wildlife habitat in Canada. The Canada Man and the Biosphere Committee has adopted this map in its system plan for a Canadian network of biosphere reserves. Research conducted in biosphere reserves will allow for global environmental monitoring of Canada's biomes.

The ecoprovinces map (Figure 3B) shows 40 distinct regions that constitute a national overview of natural regions in Canada, whereas the ecozones map links Canada's natural regions to the global context. The ecoprovinces map closely approximates the number of natural regions in the National Parks System Plan of the Canadian Parks Service, which is used to guide national park establishment. The ecoprovinces map delineates the aspen parkland region of central Alberta, which is not considered a distinct unit in the National Parks System Plan. A representative sample of this region should be protected as part of the national parks system or by an equivalent provincial park.

The ecoregions map (Figure 3C) divides Canada into 177 natural regions. It is somewhat parallel to a combination of the provincial and territorial protected area system plans. A comparison of the ecoregions map and the various system plans (not shown) illustrates that: several jurisdictions have not yet developed systematic approaches to identifying protected areas; criteria differ among jurisdictions (although the ecoregions map is a synthesis of parallel work in federal and provincial agencies); and political boundaries do not reflect Canada's ecological regions.

Finally, representation of the 5,400 ecodistricts may best be achieved through a network of ecological reserves and private stewardship initiatives. Some of the ecodistricts may also be represented within large protected areas. The need to protect representative areas within the ecodistricts should be emphasized at the regional and municipal levels of government. The Canadian Association of Municipalities and other organizations that coordinate the concerns of regional and municipal governments could play critical roles in promoting the protection of regionally and locally significant natural areas as part of the national protected areas network. The identification of candidate sites could be facilitated by ecodistrict maps or by comparable work at the regional or provincial level.

Most provinces and territories have developed their own system plans, using somewhat different criteria. A consistent, or at least cooperative, approach that recognizes that ecosystems and wildlife do not respect political boundaries is necessary to ensure that transboundary ecosystems are fully protected. It is imperative that all jurisdictions make progress within their existing system plans, since further delays cannot be afforded. CEAC does not promote the adoption of any specific methodology, but it does encourage all jurisdictions to continue to work toward definitions of "representativeness," and to apply scientific criteria to the maximum extent possible in the selection and design of protected areas. Modern computer mapping technologies, such as Geographical Information Systems, should be used more extensively.

System plans for protected areas are essential planning tools. The current priority is to make progress on the protected areas network according to system plans developed within each jurisdiction, while continuing to cooperate on the further development of national and international guidelines and criteria for representation. Consideration should also be given to international cooperation on identifying natural regions that transcend national borders and on establishing cooperative management regimes.

Figure 3a Terrestrial ecozones of Canada

State of the Environment Reporting Branch, Environment Canada, 1991

Figure 3b Terrestrial ecoprovinces of Canada

Due to technical limitations, the full range of colours needed to accurately represent all of Canada's ecoprovinces and ecoregions simultaneously cannot be reproduced here. Figures 3b and 3c are included to illustrate the general approach to ecosystem mapping.

State of the Environment Reporting Branch, Environment Canada, 1991

Figure 3c **Terrestrial ecoregions of Canada**

State of the Environment Reporting Branch, Environment Canada, 1991

Recommendations

To facilitate the identification and protection of representative and unique natural areas, landscapes and seascapes, governments, conservation groups, aboriginal people, universities and other interested groups and individuals should:

4. Develop a common understanding of the concept of "representation" as it applies to the establishment of the protected areas network.

5. Develop a list of selection criteria that can be used to identify candidate protected areas.

6. Adopt protected area classifications according to the recently approved IUCN *Framework for the Classification of Terrestrial and Marine Protected Areas*.

7. Apply the principles of conservation biology to the design and management of protected areas and their surrounding lands and waters.

8. Strengthen research into the ecological, social, economic, and political factors that affect the final selection of protected area sites, and use the findings of such research to improve the selection and establishment process.

9. Integrate protected area site selection knowledge and criteria into planning and land allocation processes at all levels of government to ensure that the full range of nationally, regionally and locally significant natural areas is protected.

To achieve progress on completing the national terrestrial protected areas network by the year 2000, protected area agencies should:

10. By the end of 1992, ensure that the natural regions in all jurisdictions are mapped, and protected area system plans are prepared and approved.

11. By the end of 1992, develop an action plan that describes the steps to be taken to identify and establish candidate protected areas required to complete the system.

12. Designate and protect new land as a priority over the development of services in proposed and existing protected areas.

13. Designate, as part of the system planning process, potential additions to existing protected areas that only partially represent their natural regions, as well as additions that can be made by rehabilitating land that has lost ecological integrity due to past land-use practices (e.g., wetland drainage).

14. Place moratoria on development of land where candidate protected areas are under discussion and negotiation.

15. Encourage municipal, regional, aboriginal and private stewardship organizations to contribute to the establishment and stewardship of protected areas in a manner consistent with the national vision.

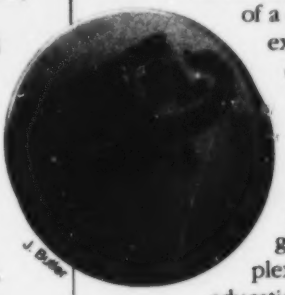
4 Managing the Protected Areas Network

CPS P. McCloskey

The maternal environment of all humanity is the world, the Earth, now increasingly weakened and ill from too much child-bearing. Badly over-populated and polluted, short on nourishing resources and with its restorative powers crippled, the planet lacks a health care plan and a corps of dedicated healers.

J. Stan Rowe
Home Place: Essays on Ecology, 1990

The establishment of protected areas does not, in itself, guarantee their protection. They are rarely self-contained ecological units that can be isolated and maintained in a pristine condition. Transboundary pollutants, visitor impacts, and the encroachment of industrial and commercial developments all contribute to the degradation of natural and cultural resources. A higher standard of professionalism in the management of these areas is essential if they are to be protected in perpetuity.



The Threatened Values of Protected Areas

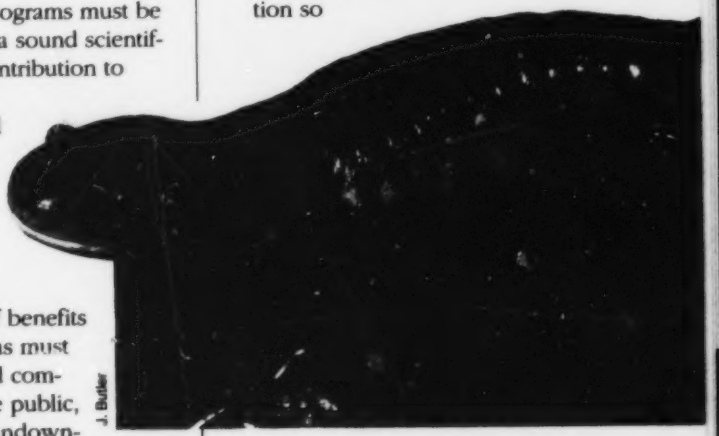
Protected area values are at risk for the following reasons:

- Protected area boundaries often do not reflect ecological realities; they seldom encompass definable ecosystems because boundaries are largely the product of political decisions.
- The dynamics, interrelationships, and ecological requirements of the natural components of protected areas are, at best, poorly understood.
- Coordination and cooperation on management issues between protected area managers and their neighbours on adjacent lands are often poor or nonexistent.
- Consistent, sustained funding and human resources have not been available for programs that are vital to maintaining the integrity of protected areas.

Protected areas management has evolved from a focus in the early 1900s on eliminating predators and poaching to an emphasis on suppressing fires, conserving wildlife, and designing facilities, and then to a focus in the 1960s on visitor use and the enforcement of regulations. Current initiatives focus on ecosystem management, provision of a quality visitor experience, and cooperation with other agencies and institutions. Over time, protected areas management has grown more complex, requiring higher education levels and access to a more diverse range of expertise, both internal and external, than in the past.

To ensure that the ecological integrity of protected areas is maintained, a number of specific actions are required.

- Protected area programs must be administered on a sound scientific basis. Their contribution to maintaining the earth's ecological integrity must take priority over traditional recreational mandates.
- The full range of benefits of protected areas must be identified and communicated to the public, particularly to landowners and local governments adjacent to protected areas.
- Protected area agencies must build accountability for the maintenance of ecological integrity into their programs. Legislation and policy must reinforce the priority of ecological integrity, providing formal mandates to agencies for the long-term protection and/or restoration of such things as biological diversity within and adjacent to protected areas. Financial and human resources must be allocated or redirected to this priority.
- Independent, impartial assessments must be conducted on the ability of protected area agencies to achieve their objectives with existing personnel. Apart from identifying personnel needs and inadequacies, baseline assessments of current education, in-service training, and staff professionalism should be developed. From this, staff development priorities should be implemented in accordance with specific goals.
- The boundaries of protected areas must be established through legislation so that they can be amended only through additional legal action. The third World National Parks Congress (1982) recommended that permanent status for protected areas be guaranteed in legislation to secure these areas against compromise.



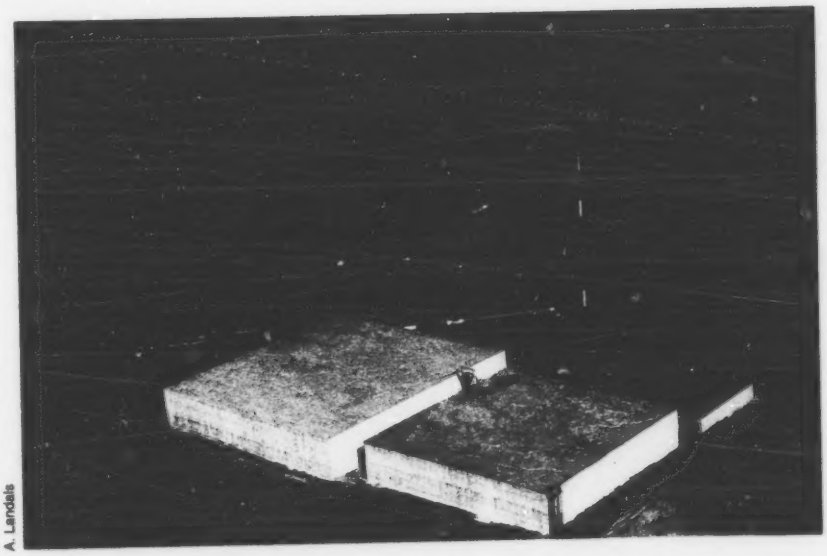
The following sections establish the foundations upon which protected areas can be managed in a more ecologically sound and socially relevant way.

Ecosystem Management

In this report, ecosystem management refers to the integrated management of natural landscapes, ecological processes, wildlife species and human activities, both within and adjacent to protected areas. The purpose of ecosystem management is to achieve cooperation on a regional level in order to maintain protected area values, and to ensure their contribution to the environmental, social and economic aspirations of surrounding communities. The term "management" is used deliberately, in the sense of the conscious goal of protection and maintenance.

There are no tidy boundaries around ecosystems, nor is there a common checklist of all the natural processes and human activities that the manager of a protected area can use to determine the appropriate management responses. Each protected area is an open system with unique characteristics, and managers must rely on research, professional judgement, and extensive public consultation and participation to define both the ecosystem boundaries pertinent to protected areas and to select the management issues on which to focus.

For a protected area manager, ecologically desirable conditions include maintaining species, natural communities, and the processes that perpetuate them. Socially desirable conditions include maintaining wilderness conditions for recreation, with consideration of the factors



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that give the user a "quality wilderness experience." Social objectives also include integrating protected areas with surrounding land uses, communities and other interests.

When ecosystem management becomes the operative concept for a protected area there is a much greater focus on managing external threats, which include pollution, inappropriate resource extraction activities on adjacent land, and overuse by visitors. But ecosystem management is not just identifying and managing external threats. It involves establishing specific ecological objectives for protected areas and their surrounding lands.

Ecosystem management provides a powerful philosophical and technical basis for the stewardship of protected areas and surrounding communities, as well as for society at large. The ecosystem approach should form the core of protected area management strategies. At a minimum, an ecosystem approach should encompass the following steps suggested by Agee and Johnson (1988):

1. Set goals and measurable targets for the condition of the ecosystem (for example, the restoration and/or protection of indigenous species and the protection of critical wildlife habitat).

2. Define the important ecological boundaries for the critical design components of the protected area (for example, the ranging areas for wolves and grizzly bears).

3. Develop management strategies that transcend political boundaries (for example, inclusion of protected areas in regional land-use planning).

4. Establish research and monitoring programs to assess the effectiveness of management strategies (for example, monitoring of surrounding land-use practices and visitor impacts).

Partnerships

Since ecosystem management involves a much greater focus on integrating protected area objectives with the needs and aspirations of surrounding communities and landowners, the concept of partnerships must be especially recognized.

The partnership concept involves a more open and receptive approach by government agencies to the management of activities within and adjacent to protected areas, especially for purposes such as research, provision of services, monitoring, education and interpretation. This approach poses a challenge to authorities who have traditionally had exclusive management control over protected areas, but developing true partnerships with universities, conservation organizations, industry and individuals is essential to ecosystem management.

The term "partnership" could be viewed as a surrogate term for "cooperative management," with all partners accepting responsibility and accountability for results. The problems confronting protected areas require solutions that are multi-sectoral, multi-jurisdictional and multi-disciplinary because no one government agency or organization has the ability or power to resolve the full range of threats to protected areas or offer the solutions that assure their continuance. This is especially true outside of protected areas where protected area partners must manage surrounding lands using conservation practices that are compatible with maintaining the integrity of the protected areas.

The principles underlying effective partnerships include:

- agreement on clearly identified goals;
- mutual understanding, respect and support for the aspirations of each partner;
- acknowledgement of the strengths and weaknesses of each partner;
- provision of adequate financial resources;
- establishment of criteria to measure the effectiveness of the partnership; and
- provision for joint decision making.

Land-Use Planning

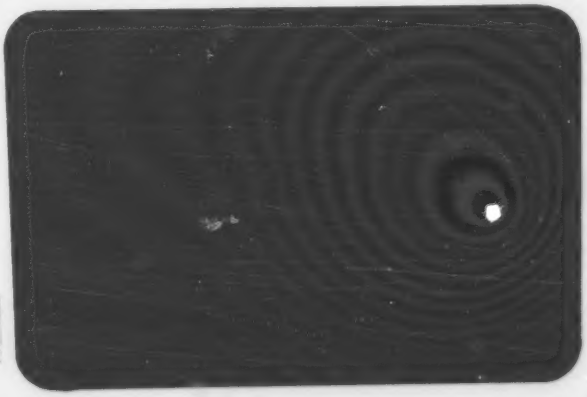
Establishing protected areas in isolation from regional planning and decision-making processes is not an effective way to ensure the maintenance of their long-term ecological integrity. Past experience has shown that surrounding communities, landowners and commercial developments systematically encircle and encroach on protected areas. The result is often the loss of protected area values and demands for inappropriate uses of these areas.

To ensure the protection of representative and unique natural areas, CEAC believes that protected areas must be integrated into the traditional planning structure. Regional land-use planning, for example, should consider protected areas in their proper context. A critical first step is to give protected area agencies the mandate and resources required to participate fully in provincial, territorial and municipal planning processes. (For a greater appreciation of the potential contribution of land-use planning to effective decision making, refer to CEAC's publication *Land Use Planning and Sustainable Development in Canada*, 1989).

Management Plans

Ideally, protected areas should be set up to allow natural processes to evolve unimpeded by human intervention, but this is never entirely possible. The purpose of a protected area is not to set natural areas aside, but to elevate the management of the most critical natural elements in order to guarantee their continued productivity and biological diversity. At times this may involve replicating ecological processes that may no longer be occurring naturally. Protected area managers should also build upon the partnership concept by defining "zones of cooperation" around protected areas in which local communities and commercial interests work toward common objectives such as preserving protected area values.

Management plans for protected areas must deal with an array of ecological concerns and human activities. The challenge includes articulating what protected area partners choose to protect and manage through defining objectives and activating the mechanisms and resources required to achieve those objectives. The management planning process is the focus for making



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such decisions and documenting them for the benefit of the protected area partners and the interested public. The planning process should be flexible, allowing for such things as the use of traditional and local ecological knowledge.

Information Base

Implementing ecosystem management requires an extensive, sophisticated and up-to-date information base. Such information is sadly lacking in many parts of Canada, where accurate inventories of ecological processes, habitats and species are unavailable or partial at best. This weakness complicates our ability to design and implement effective management plans for protected areas.

The United States is establishing an integrated computer database in Glacier National Park, Montana, to monitor the Crown of the Continent Ecosystem, which includes Waterton Lakes National Park and southeastern British Columbia. This database will be accessible to anyone with an interest in improved ecosystem management and resource sustainability. Similar databases must be developed in Canada, using technologies such as Geographical Information Systems, in which Canada is among the world leaders. The need to complete and periodically update a comprehensive inventory of the resources in and around protected areas is fundamental. It is essential that a common biogeographical framework for collecting such data be established to allow for the analysis of information gathered from different types of protected areas and to augment the role of protected areas as scientific benchmark sites. This work will require substantial resource commitments, but it is essential to establishing a viable national network of protected areas.

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Data collection relevant to international conservation programs and the monitoring of biosphere reserves and World Heritage Sites should also be enhanced to ensure that Canada fully complies with commitments made in international agreements. This data would contribute to the monitoring of changes to globally significant biomes such as prairie grasslands, Arctic areas, and temperate rainforests.

Natural and Social Science Research

Not enough is known about the interactions among many plant and animal species, or the ecology of protected areas and their surrounding regions. Moreover, ecosystem management requires both natural and social science research to develop the understanding needed

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to manage ecological and human relationships and interactions. Despite the importance of such research, financial allocations and program commitments by protected area agencies have generally been low, discretionary, and oriented toward issues to which the agencies are forced to react, such as external threats to protected areas. In comparison, the U.S. government has made an extensive commitment to research programs in national parks. To promote research, over 20 park study units are administered in conjunction with universities across the United States. In addition, most of the country's major national parks have teams of on-site research scientists and biologists.

Canada has made some modest advances in this area, but much remains to be done. Since the late 1970s, ecologists have become part of the field staff in most national parks in the Atlantic region. The Canadian Parks Service only recently designated its first chief of science in its Western Regional Office.

Special Management Issues

Three issues have been singled out for special mention by CEAC because they represent unique threats and opportunities for protected areas: tourism and recreation management, ecotourism, and the role of the private sector. These issues are reviewed in the context of the overriding protected areas objective of minimizing human impacts, while allowing for and supporting legitimate uses.

Tourism and Recreation Management

Pressure to develop and expand tourism-related facilities in protected areas, especially in national and provincial parks, will continue to increase. In properly designed and managed parks, tourism and non-consumptive recreation can be consistent with the objectives of protected areas. Excessive visitation and use of park resources by tourists, however, can damage sensitive ecosystems. Thus, restrictions on certain uses, and on overuse, must be part of protected areas management.

This challenge has already been recognized and dealt with in some areas. For example, in developing a management plan for the Mingan Islands Archipelago National Park Reserve in Quebec, the Canadian Parks Service used the Visitor Activity Management Process to examine market segmentation, tourism infrastructure, economic and community impacts and visitor forecasts for the park and its surrounding region. As a result, the final plan reduced the scale of visitor services and the number of facilities within the park and relocated certain proposed park services to mainland areas. Residents of coastal communities and aboriginal people supported the changes, and tourism and regional development agreements were signed.

This example can be contrasted with the overdevelopment of the townsite in Banff National Park, where crowded streets and traffic tie-ups create an urban atmosphere.

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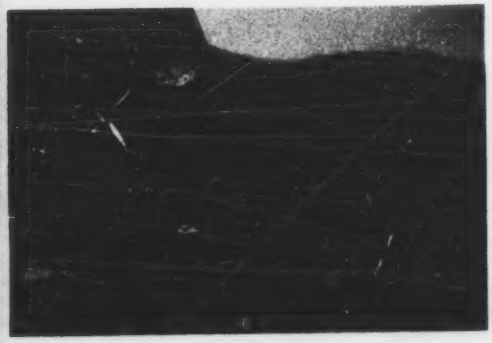
Many park visitors become preoccupied with the artificial, extrinsic attractions, such as furrier stores, night life, golf courses, tennis courts, luxury hotels and souvenir shops without fully appreciating the natural setting and the intrinsic values of the protected area. In Banff, little distinction is made between essential and non-essential services; the facilities themselves have become the destinations. There is nothing inappropriate about enjoying and participating in the full range of the recreation spectrum. Conflicts arise, however, when insufficient land uses or park and recreational facility classifications are available to accommodate this spectrum, or when the range is attempted within a single park. Protected areas must cater to activities consistent with the values of their natural attractions. Activities contradictory to an appreciation of these values must be discouraged, and protected area values reaffirmed.

Within and adjacent to protected areas, specific management techniques can be employed to disperse visitors and reduce site impacts. It is critical that government agencies responsible for protected areas work with conservation groups and the tourism industry to clarify the role of national parks and protected areas within the spectrum of recreational opportunities. Together, they must affirm the importance of environmentally appropriate developments that focus on intrinsic values, and they should emphasize the goal of maintaining levels of use essential to retaining a high-quality experience.

Ecotourism

The preferred type of tourism for national parks and protected areas is a form known as ecotourism (ecology-based tourism). While natural environment or wildland



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tourism has taken on many titles over the years, from Green Tourism to what Germans call Studienreisen (study tourism), the term ecotourism was coined by Hector Ceballos-Lascurain in Mexico City in 1983. He defined it as "travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations found in these areas."

Ecotourism is a rapidly increasing segment of the tourism economy, and it has proven to be a powerful conservation force in many parts of the world, providing an economic incentive for protecting environments and wildlife. In the 1990s, as increasing numbers of visitors and their demand for services and facilities continue to stress protected areas, the term ecotourism has become synonymous with a preferred ethic and higher environmental consciousness among tourists. The term has come to signify a more environmentally friendly side of the spectrum of wildland (green) tourism, and the preferred model for both visitors and tourism developers. Eight characteristics of modern ecotourism have recently been described by Dr. Jim Butler of the University of Alberta.

1. It must promote positive environmental ethics – fostering preferred behaviour in its participants.

2. It does not degrade the resource. There is no consumptive erosion of the natural environment visited. While sport hunting and fishing may be counted under the broad heading of wildland (green) tourism, they are classified under the division of adventure tourism rather than ecotourism.

3. It concentrates on intrinsic rather than extrinsic values. Facilities and services may "facilitate" the encounter with the intrinsic resource; they never become attractions in their own right, nor do they distract from the natural attraction itself.

4. It is biocentric rather than homocentric in philosophy. Ecotourists enter the environment accepting it on its terms, not expecting it to change or be modified for their convenience.

5. It must benefit the wildlife and environment. The question of whether or not the environment (not just people) has accrued "benefits" may be measured in a range of ways – socially, economically, scientifically, managerially, or politically. If the environment has not at least achieved a net benefit toward its sustainability and ecological integrity, then the activity is not ecotourism.

6. It is a first-hand experience with the natural environment. Movies and zoological parks do not constitute an ecotourism experience. Visitor centres and interpretive slide shows are included when they direct people to a first-hand experience.

7. It has an "expectation of gratification" that is measured in terms of education and/or appreciation, rather than in thrill-seeking or physical achievement; the latter being more characteristic of adventure tourism.

8. It has a high cognitive and affective experiential dimension. Ecotourism involves a high level of preparation and knowledge from both leaders and participants, and the satisfaction derived from the experiences is felt and expressed strongly in emotional and inspirational ways.

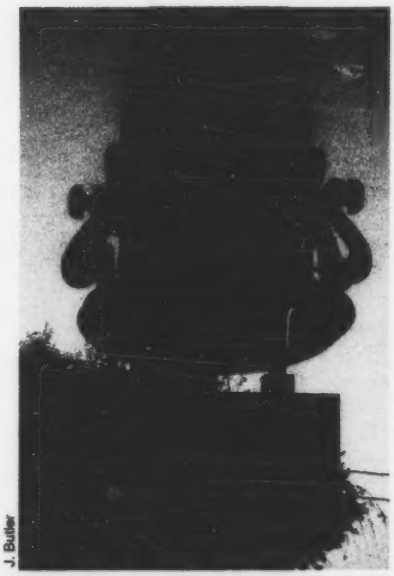
The Role of the Private Sector

Protected areas often function like magnets, drawing large numbers of visitors, but for many different reasons. The Canadian national parks alone draw close to 13 million visitors each year, with comparable numbers visiting provincial parks; the American national parks draw more than 400 million visitors annually. Tourists contribute to local and regional economic development and, not surprisingly, stimulate private-sector interest, since tourism is a $2.1-trillion industry globally. Natural environments, such as parks, wildlife areas, and nature reserves, are at least a $200-billion segment of that total.

Protected area agencies can, and do, provide significant contributions to local economies. These contributions have been calculated, for example, in studies on the Bruce Peninsula and Point Pelee in Ontario. There is clearly a useful role for the private sector, but the appropriate role is a matter of controversy. The privatization of park

services, for instance, has been rejected in public hearings in Ontario, and by conservation groups and unions in other parts of Canada for several reasons. These reasons include distrust of the profit motive, fear of losing public service jobs and committed field staff, and fear of uncontrolled expansion of services at the expense of ecological integrity and preferred park experiences.

It is clear that partnership concepts require the direct participation of the private sector in the implementation of management plans. This is



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critical to ensure that the objectives and values of protected areas are understood and used to design appropriate responses by all partners. The private sector, no less than any other partner, must be given guidance and must work within constraints. Moreover, the private sector should be encouraged to find ways to enhance protected area values by developing compatible products and services.

Often the full range of services and experiences that visitors may want should not be provided within protected area boundaries anyway. The private sector should take advantage of the demands that could arise from the existence of a protected area in a given region. Generally, the designation itself provides long-term security to the land base, which encourages private investment. It has been the lack of government designation of parks and other protected areas under the illusion of "keeping our options open," that in fact has kept options closed and discouraged private-sector investment in services (restaurants, lodges, motels, souvenir shops, campgrounds, horse trips, fishing guides, etc.) because investors need a sense of investment security. Real-estate agencies in Ontario have proven a surprise advocacy group for the establishment of ecological reserves. Public demand to live beside areas with "guaranteed natural permanence" is enormously high, and property values adjacent to protected areas reflect that increased prestige.

Recommendations

To enable protected area agencies to maintain the ecological integrity of protected areas, governments should:

16. Revise protected area boundaries where necessary to more fully protect natural features and ecological processes.

17. Ensure that protected area boundaries are guaranteed in legislation.

18. Ensure that protected area agencies have clear mandates and appropriate budgets to ensure the long-term protection, restoration and monitoring of biological diversity and ecological processes in protected areas and on adjacent lands and waters.

To ensure the proper management of protected areas, protected area agencies should:

19. Identify appropriate ecological goals for each protected area and its adjacent lands, and develop strategies to achieve the goals.

20. Adopt and promote an ecosystem management philosophy that recognizes the essential roles and contributions of all protected area supporters as well as regional, local and other groups whose interests are affected.

21. Substantially increase research on ecological relationships and dynamics, and on the impact of human activities in and adjacent to protected areas.

22. Establish cooperative management regimes around protected areas, including the designation of buffer zones and the development of compatible land-use strategies, by working with regional and local interests.

23. Improve consultation and cooperation with government agencies responsible for renewable and nonrenewable resource activities to ensure that such activities are managed appropriately in the vicinity of protected areas.

5 Public Education and Interpretation

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Like a great poet, Nature produces the greatest effects with the fewest materials – sun, trees, flowers, water and love; that is all. If, indeed the last is wanting in the heart of the beholder, the whole is likely to seem to him a daub; the sun is only so many miles in diameter, the trees are good for firewood, the flowers are classified by the number of their stamens, and the water is – wet.

Heinrich Heine
Die Harzreise

Interpretation and public education are essential activities in national parks and protected areas. The provision of these services not only enhances public appreciation and understanding of protected areas, but directs visitor attention to the intrinsic attractions, promoting preferred visitor patterns and ultimately fostering an enhanced environmental ethic. Interpretation and education desperately need better support, including increased staffing levels, greater budgetary commitments, expanded partnerships, and professional improvements.

Interpretation: Fundamental to the Concept of Protected Areas

Recognition of the role played by interpretation and visitor education has been fundamental to the concept of national parks and other protected areas from their inception. In the first appeal for a "nation's park" in 1832 by George Catlin – for an area "preserved for its freshness of nature's beauty" – he implied that the area would have to be understood to be appreciated. This implication was reaffirmed by Nathaniel P. Langford, co-leader of the Yellowstone expedition (which in 1870 led to the establishment of Yellowstone National Park), when he wrote "while you see and wonder, you seem to need an additional sense, fully to comprehend and believe."

During this same period, a then little-known sawmill operator in the Yosemite Valley, by the name of John Muir, was diversifying his income by leading early park tourists on nature hikes. When he wrote during this time, "I'll interpret the rocks, learn the language of flood, storm and avalanche . . . " this was the first use of the word "interpret" in the context of park interpretation. James Harkin, the first Director of Canada's Dominion Parks Branch, admired Muir and used his words in Canada's first national park policy documents and annual reports to clarify the value of wilderness and the philosophy and purpose of national parks.

The fundamental role of interpretation in national parks was officially affirmed when the U.S. National Parks Service was established as a distinct bureau (five years after Canada's equivalent initiative) to supervise and formalize policies for the initial wave of America's national parks. In the 1916 report on the establishment of this agency and its first uniform policies, it was stated that national parks were not designed solely for the purpose of supplying recreational grounds. The fostering of recreation as such was more properly the function of city, county and state parks, and a clear distinction was made between the character of such parks and national parks. National parks possessed an educational value that could not be estimated. In his initial annual report, the National Park Service's new director, Stephen T. Mather, further emphasized this final point, "One of the chief functions of the national parks and monuments is to serve educational purposes."

Returning east by railroad in 1919, Mather laid over at the Fallen Leaf Lodge at Lake Tahoe. With his mind filled with the frustrations of management challenges and threats to

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the fragile Yosemite environment, his attention was drawn to the popularity of an interpretive presentation at the lodge. The lodge owner, who held a biology degree from Stanford, had imported the idea from Norway, where "nature guiding" and evening nature talks were popular around selected resorts. Mather saw this as an opportunity and a vehicle to arouse public sentiment for preserving the natural values of Yosemite, thus using education as a management tool to protect the national park environments. The following summer in Yosemite and Yellowstone, the first park naturalists were employed by a government agency. This initiated a tradition that, in spite of wavering commitments and administrative cut-backs, has continued in American and Canadian national parks and other protected areas to the present time.

Shifts in Emphasis Over Time

Since the 1920s, interpretation programs in protected areas, particularly within national parks, have made considerable advances in the sophistication of their planning processes, technological applications, and eventually their system planning and inter-agency cooperation and coordination. These important shifts in focus can be described in three phases.

In Phase One interpretation was dedicated to acquainting visitors with features in the protected areas, and often focused on those features most dramatic, majestic and exceptional by nature. The emphasis was on providing explanations for these phenomena, often given in the context of the "wonders of God's creation."

In Phase Two interpretation stressed interrelationships, ecology, and the landscape in general, even when less endowed with dramatic features such as hot springs and waterfalls. In addition, management issues finally received greater attention. The focus of communication, however, was confined only to "that within the park boundary."

Phase Three represents scattered current initiatives that use protected area interpretive offerings, in an expanded scope, to foster an environmental consciousness among visitors. This shift from internal to external perspectives is driven by five principal motives.

1. The recognition that protected areas cannot survive independently of the state of their surrounding landscapes.

2. The search for a vehicle to demonstrate and communicate models for, and the fundamentals of, a national environmental strategy.

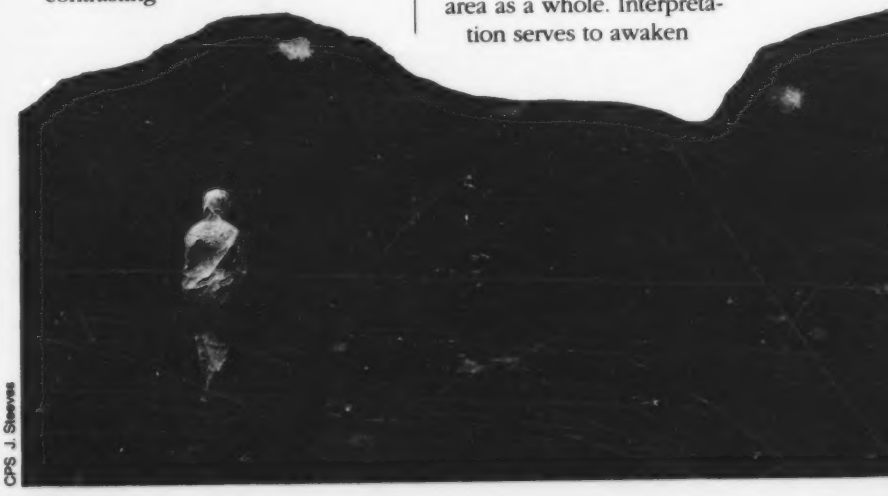
3. The demonstration of protected areas as preservation landscapes that focus on natural processes by comparing and contrasting them with conservation landscapes that are oriented toward renewable resource activities.

4. The recognition that protected area visitors generally represent a more highly educated segment of the population, with greater receptivity to environmental education, and a disproportionately higher influence on decision making.

5. The realization that pristine, protected area environments represent unique opportunities for philosophical revitalization and ethical reorientation that may serve to foster environmental values and to change "land ethics" for the nation as a whole.

Purpose and Role of Interpretation

A well-rounded interpretation program can go a long way toward ensuring the high-quality, public use of a protected area. By providing essential facts about the area, and park programs and facilities, the interpretive program can help the visitor understand, appreciate and enjoy not only nature, but the area as a whole. Interpretation serves to awaken



CPS J. Stevens

General Model of the Interpretation-Protection Interface

public awareness of protected area purposes and policies and strives to develop a concern for preservation.

Interpretation is not the mere transfer of information to others, nor is it the mere cataloguing of things to see and do. Interpretation should fill the visitor with a greater sense of wonder and curiosity. It should leave visitors with a desire to know more while having enhanced their curiosity and intellectual satisfaction. The degree to which a visitor enjoys and values an experience in a protected area depends largely on the individual's perception of that area's resources. For this reason an interpretive strategy should be designed to enhance the visitor's knowledge and appreciation of the area's resources and ultimately have a positive influence on the interaction between the visitor and the resources.

The quality of the interpretation experience can be enriched if the visitor is placed in direct contact with the area's natural resources and if these resources are described as, or are revealed to be, relevant to the visitor's own experience. Proper presentation of natural and cultural features can add greatly to the enjoyment and understanding of the areas visited.

Interpretation by definition is "a communications process designed to reveal meanings and relationships of our cultural and natural heritage to the public through first-hand involvement with an object, artifact, landscape, or site" (Interpretation Canada, 1976). It is this opportunity of first-hand experience with the "real thing" that is the principal distinction of interpretation. For example, an interpretive centre in a park introduces, clarifies, and directs the visitor to the actual resource outside, whereas a museum building in a city generally functions as the destination itself.

Stated objectives of most park interpretation programs generally make some reference to the role of interpretation in resource protection.

One of the main benefits of interpretation cited by Grant Sharpe (1976) in a book titled *Interpreting the Environment* is that it "may be effective in preserving a significant historic site or natural area by arousing citizen concern. Interpretation may motivate the public to take action to protect their environment in a sensible and logical way."

Education and interpretation need to be given greater support than in the past. They are fundamental to changing attitudes toward the environment and to showing visitors how to use protected areas. In addition, enhanced professionalism of protected areas staff is essential to ensure the effective communication of protected area messages.

Protected area agencies alone cannot deliver the full range of education and interpretation programs. The partnership approach applies with full force to these functions. These agencies will have to work cooperatively with non-profit organizations, such as cooperating associations, universities and Interpretation Canada, to establish professional training standards and programs.

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Cooperating Associations

Cooperating associations are nongovernment organizations that allow individuals living near protected areas to volunteer their time in support of protected area objectives, particularly for the purposes of education, research support, fund raising and public relations. To support their activities, these associations generate revenues from the sale of books and other items.

Cooperating associations present an enormous opportunity for governments to promote protected area values and provide for the infusion of these values into local and regional planning and management structures. These associations can assist in securing private support for protected area projects as well as for interpretation and community outreach programs.

To enable cooperating associations to more fully contribute to the objectives of protected areas, the following actions should be considered:

- Protected area agencies and cooperating associations should agree on the roles that the cooperating associations can play to achieve protected area objectives.
- Protected area managers should support and encourage greater autonomy for cooperating associations in their day-to-day operations. These associations should not be used simply to complete tasks governments cannot accomplish because of resource constraints.
- Protected area agencies should establish the levels of service that they will provide to visitors, and cooperating associations should complement and further extend these services. This delineation of roles is fundamental to avoiding employee unease about potential job losses to cooperating associations, and union concerns over privatization.
- Cooperating associations should function more freely in the marketplace surrounding protected areas, provided that protected area objectives are not compromised. For example, they should be allowed more freedom to bid on concession contracts and to merchandise their material.

CPS J. Steeves

Environmental Education in Protected Areas

Environmental education should be considered as an essential component in the overall interpretive effort. Educational programs are developed principally for schools. Protected areas, however, can provide for personal services such as teacher training and conducted events led by volunteers and park staff. Nonpersonal services can include pre- and post-trip resource kits, brochure information on self-guided field studies, exhibits developed specifically for children, and slide-tape programs and films to be shown in the classroom prior to arrival at a protected area.

Colleges and universities have an important role to play by providing young people for summer work in protected areas, and by training students as interpretation professionals for future employment. Protected areas should be used to a greater extent as outdoor classrooms, with specific locations designated as environmental education teaching areas.

One of the major goals of environmental education is to form positive reactions and attitudes toward the environment. Protected areas serve as ideal teaching laboratories for promoting these values. Aboriginal people in Canada conduct classes in traditional ecological knowledge both in classrooms and in natural settings to ensure that this knowledge and related values are passed

on to their younger generations. Protected areas could serve this function for all Canadians.

In its broadest perspective, environmental education is aimed at developing people who are knowledgeable about the environment and its problems, skilled in solving these problems, and motivated to work toward their solution. Environmental education in a park or other protected area cannot accomplish, by itself, all aspects of this sequence. It can, however, effectively concentrate on increasing people's awareness, appreciation, and understanding of the immediate environment by providing first-hand observation and personal involvement in natural settings.

Building Public Support

Effective interpretation is essential to the management and operation of protected areas. Natural areas cannot survive as islands unto themselves. Their survival is closely tied to the attitudes, beliefs, and ways of life of people across the entire landscape. Public support at both the political and community levels is important if protected areas are to achieve their conservation and preservation objectives.

An important goal of any protected area is to provide local residents and visitors with information and opportunities to increase their awareness and understanding of the area's natural values and to relate these experiences to modern lifestyles. Achieving this goal will result in a better informed public that will appreciate the area's natural and cultural heritage and transfer acquired values and experiences into the broader context of increased personal responsibility and improved lifestyles. Attitudes toward the environment are learned; they are not inborn.

Protecting parks and wilderness areas as part of a protected areas network is in many ways comparable to a librarian acquiring key volumes of books to ensure the availability of each of the great literary works. Protection and acquisition are indeed important, but such books have to be experienced, read, and understood for their true worth to be realized. While the librarian (or manager) may conserve the volumes, the visitor must also be shown how to read them. Most visitors to parks and protected areas today lack the experience to adequately "read" such places. Thus, as Huxley once noted, their visit is comparable to passing through a corridor of fine paintings, nine tenths of which are turned to face the wall. To teach visitors to read and, therefore, appreciate such works is the role of interpretation.

Recommendations

To enhance public appreciation and understanding of protected areas, governments and educators should:

24. Place a higher priority on and dedicate more resources to supporting interpretation and education programs that increase public awareness of the intrinsic values of protected areas and the role that such areas can play in fostering an environmental ethic in Canadians.

25. Expand the use of protected areas as field extensions to conventional classroom teaching and other forms of public education.

26. Work with protected area partners, such as cooperating associations, to establish outreach programs to local communities, adjacent landowners, and commercial operators in order to communicate protected area values and develop a common understanding of issues of common interest.

To increase the quality and amount of interpretation and education offered, protected area agencies should:

27. Enhance the level of professionalism of protected area interpreters and educational staff.

28. Establish a National Heritage Interpretation Institute so that professional interpreters can be developed.

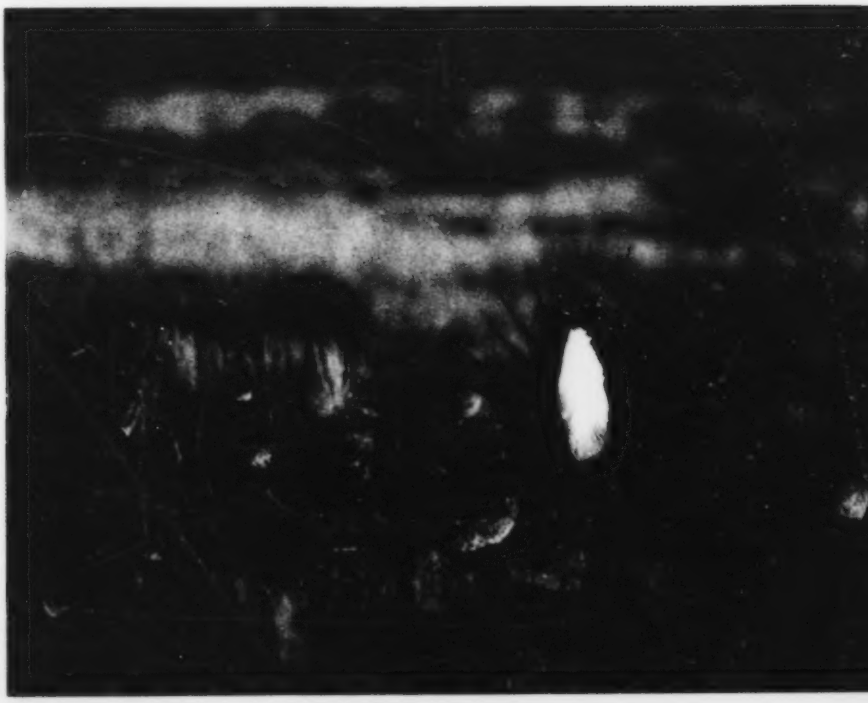
29. Establish a student conservation association to support the placement of student volunteers (and seasonal employees) in protected area programs, particularly in the areas of interpretation, research, and resource and recreation management.

30. Expand the use of volunteers to complement core protected area interpretation and community outreach programs.

31. Work with protected area partners to explore the role of the private sector in offering visitor services and sponsoring research compatible with protected area objectives, and in developing complementary services and products in the regions surrounding protected areas.

32. Conduct periodic assessments of the effectiveness of education and interpretation programs.

6 Implementing the Vision at the Federal Level



CPS W.Lynch

The challenge facing nations today is no longer deciding whether conservation is a good idea, but rather how it can be implemented in the national interest and within the means available in each country.

Brundtland Commission
Our Common Future, 1987

Federal leadership is needed to promote and implement the protected areas vision. The completion of the terrestrial and marine national parks systems and the management of national parks on an ecosystem basis is central to such leadership. The Government of Canada, however, can extend its actions far beyond the national park systems by modifying federal land management programs and practices, and by forming partnerships with provincial and territorial governments, non-governmental organizations and the private sector to implement the vision.

International Designations

Canada's co-sponsorship of the United Nations General Assembly resolution that introduced The World Charter for Nature, and a progressive commitment to obtaining designations of Canadian sites under the Ramsar Convention, the Man and the Biosphere Program, and the World Heritage Convention are important contributions to the global protected areas agenda. This commitment is further demonstrated by Canada's participation in the Convention on the Law of the Sea and the Convention on International Trade in Endangered Species. Furthermore, Canada was instrumental in designing many of the recommendations flowing from the third World National Parks Congress and the subsequent Bali Action Plan, which set clear directions for the establishment of national park systems. Canada partially funded, and Canadians helped to author, the World Conservation Strategy, and Canada's presence in the World Conservation Union's Commission on National Parks and Protected Areas has influenced the development of national park systems around the world. Given Canada's international stature and leadership in all of these fora, the federal government must act with determination to fully implement the protected areas vision so that Canada can continue to lead by example and achievement.

Green Plan Commitments to Protected Areas

- Set aside as protected space 12 percent of the country.
- Complete the national terrestrial parks system by the year 2000.
- Establish at least five new national parks by 1996.
- Negotiate agreements for the remaining 13 parks required to complete the terrestrial parks system by 2000.
- Establish three new national marine parks by 1996, including South Moresby/Gwaii Haanas and Saguenay.
- Establish three additional national marine parks by the year 2000.
- Develop an enhanced resource management program for national parks involving applied studies for ecological integrity and regional integration.
- Work with the provincial governments to establish a network of forest ecological reserves to preserve in their natural state the genetic stock of Canadian forest ecosystems.
- By 1991, adopt the Federal Policy on Wetland Conservation, including the securing of a system of wetlands of national importance and the protection of wetlands on federal lands such as national parks and national wildlife areas.
- Release in 1991 a discussion paper on a Canada Oceans Act, which will provide a legal basis for the designation of marine protected areas.
- Work toward an international convention on biological diversity to help save the world's wildlife and plants.
- Work with the provinces to develop a program to transfer to farmers agricultural practices that are compatible with wildlife habitat needs.

Federal Leadership Opportunities

There are many specific actions that the federal government can take to accelerate the completion of the protected areas network and ensure the implementation of conservation practices on all federally managed

J. Butler

International Commitments and Designations

The World Charter for Nature, adopted by a resolution of the United Nations General Assembly in 1982, proclaims principles of conservation by which all human conduct affecting nature is to be guided and judged. One of the principles notes that " . . . special protection shall be given to unique areas, to representative samples of all the different types of ecosystems and to the habitats of rare or endangered species." Canada was one of the co-sponsors of the assembly resolution that introduced the draft charter. While the charter does not make provision for specific designations of protected areas, it clearly acknowledges the need to protect representative ecosystems, which are the basis for protected area networks.

The World Heritage Convention, adopted by the 1972 Unesco General Assembly, provides for the designation of natural and man-made sites of "outstanding universal value" as World Heritage Sites. Natural heritage sites in other countries include the Grand Canyon and the Great Barrier Reef, while cultural sites include the Pyramids of Giza and the Taj Mahal. The Canadian Parks Service is the primary agency responsible for fulfilling Canada's obligations under this convention, even though World Heritage Sites are located on both provincial/territorial and federal lands. Seven natural sites have been designated since Canada acceded to the convention in 1976:

- Gros Morne National Park
- Kluane National Park Reserve
- Wood Buffalo National Park
- Nahanni National Park Reserve
- Dinosaur Provincial Park
- Canadian Rocky Mountains (includes the four mountain national parks and the Burgess Shale deposits in Yoho National Park, and adjacent provincial parks in British Columbia)

The Man and the Biosphere (MAB) Program evolved from the Unesco International Biological Program. This was a ten-year international project (1964-1974) designed to locate major ecosystems and work toward their statutory protection as ecological reserves. The long-term goal of MAB is to create an international network of biological reserves that will collectively represent the world's major biomes. The selection of biosphere reserves is based upon "representative" ecosystems, not "uniqueness." Canada has been involved with the program since its inception, and currently has six biosphere reserves:

- Waterton Lakes
- Riding Mountain
- Long Point
- Mont St. Hilaire
- Charlevoix
- Niagara Escarpment

The Ramsar Convention, the Convention on the Conservation of Wetlands of International Importance, was drafted in 1971 in the city of Ramsar, Iran, and is administered by a secretariat located at the headquarters of the World Conservation Union (IUCN). The convention's strength is primarily in the increased status and perceived value attached to international recognition of a designated site. There are currently 30 Ramsar sites in Canada (and 450 worldwide), most of which have some form of legal protection under federal and provincial legislation. Three Ramsar sites are located in national parks: one in Point Pelee and two in Wood Buffalo National Park. The Canadian Wildlife Service has administered the convention since Canada acceded to it in 1981.

lands. The federal government made several commitments consistent with CEAC's proposed protected areas vision in Canada's Green Plan, released on December 11, 1990. Environmental leaders praised these commitments and the actions promised in the plan, which, when and if implemented, will measurably improve Canada's performance in developing the protected areas network.

It is essential that the federal government establish and manage protected areas in conformity with international commitments and work to promote the adoption and implementation of appropriate standards at the provincial and territorial levels. In particular, research and education programs within existing protected areas need to be strengthened. Regional integration and effective management of protected areas and their surrounding lands and waters must also be improved. Biosphere reserve principles, which

are founded on an ecosystem approach, should guide the management of all protected areas.

The National Parks System

National parks are the "crown jewels" of the nation, and the national parks system is the centrepiece of the federal government's contribution to protected areas in Canada. The objective is, "To protect for all time, representative areas of Canadian significance in a system of national parks, and to encourage public understanding, appreciation and enjoyment of this national heritage so as to leave it unimpaired for future generations."

CPS W. Lynch

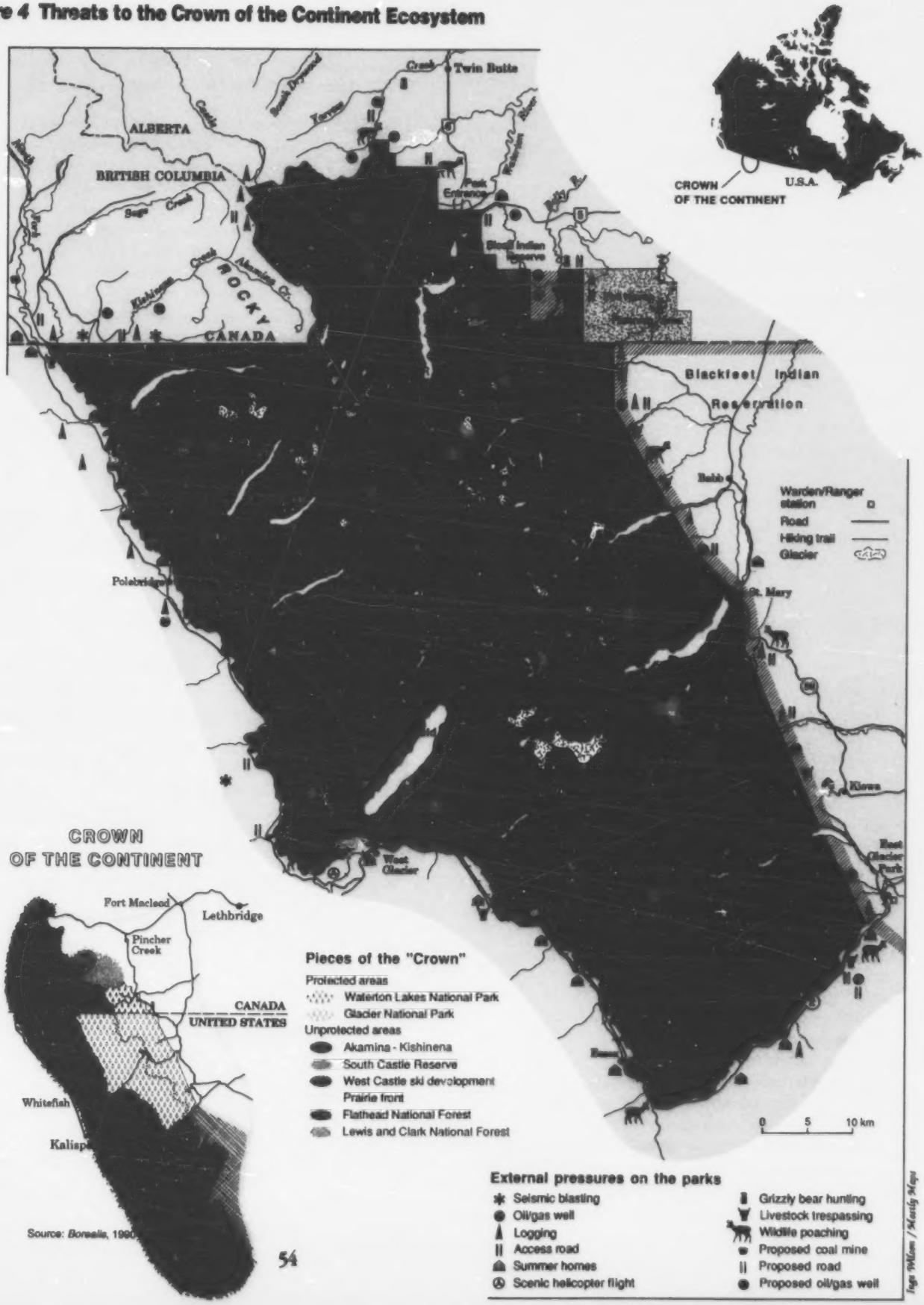
The National Parks Act (as amended in 1988) governs the establishment and management of national parks. The Parks Canada Policy (1979, currently under revision) provides information to the public and direction to the Canadian Parks Service on how Canada's natural and cultural heritage can be commemorated, protected and presented.

In 1986, the federal Task Force on Park Establishment reviewed issues related to establishing national parks and heritage areas. Also, the 1985 Canadian Assembly on National Parks and Protected Areas clearly indicated that the barriers to completing and properly managing the national parks system have been recognized for some time. A comprehensive analysis of the threats to national parks and protected areas has not been undertaken in Canada; however, several studies support the conclusion that internal and external threats to the ecological integrity of protected areas are increasing.

- A 1987 Canadian Parks Service study of problems and issues within each of Canada's national parks identified transboundary and visitor impacts as the two major issues facing national parks. The study concluded that "the magnitude and frequency of transboundary concerns will increasingly become a problem because of continuing development and pollution."
- The 1989 Auditor General's Report on the Canadian Parks Service concluded that competing priorities have prevented the allocation of sufficient financial and other resources to national park resource conservation programs, resulting in many breaches of resource protection policy.
- The first study of species loss in Canadian parks revealed that in several parks, particularly in southern Ontario and the Maritimes, many of the original mammalian species have been lost.
- An assessment of 98 of the world's national parks by the University of Idaho concluded that "substantial and diverse threats confront the natural resources of national parks worldwide." Half of the parks reported the removal of vegetation, poor relations with local people and conflicting demands for park resources as serious threats.

Wood Buffalo National Park, the nation's second largest wilderness preserve, was once a seemingly isolated wilderness area on the Alberta – Northwest Territories border. This area is threatened by changing water levels caused by the W.A.C. Bennett Dam in British Columbia and by pollution from upstream pulp mills (existing and proposed). A recommendation has been made to eliminate the park's free-roaming bison due to the presence of disease (i.e., brucellosis and tuberculosis). Areas within the park have been systematically violated by logging activities and the park is now one of our most threatened protected areas. A number of conservation groups have suggested Wood Buffalo National Park as a

***Figure 4* Threats to the Crown of the Continent Ecosystem**



Waterton, Crown of the Continent

"The Crown of the Continent Ecosystem is the great, interconnected system of air, rock, ice, water, greenery and living creatures that encloses and sustains two spectacular national parks. It is a living, dynamic mosaic of creatures, places and forces . . . But with each lost spoke, the system becomes less able to withstand the inevitable bumps on the road of time . . . Some looked at the Crown and saw a place to settle – to ranch or farm. Some saw profits to be made from oil, gas, timber and other natural resources. A few saw vague shadows of what the native people saw and argued for the protection of scenery and wildlife in national parks."

"The Crown of the Continent faces a questionable future for the first time since the great glaciers retreated. Its troubles stem primarily from the fact that those who control it view it as real estate and resources, to be fought over, parcelled out, then exploited – rather than as a unique ecosystem to be treated humbly and with respect." (see Figure 4)

(Extracted with permission from Borealis 2(1):24-30.)

candidate for the World Heritage Committee's list of World Heritage Sites in Danger. Kejimkujik National Park in Nova Scotia is on the World Conservation Union's list of threatened protected areas because of the impact of acid rain.

Identifying Potential Sites

The Parks Canada Policy states that one goal of the national parks system is to "represent" each of Canada's natural regions. In 1971, the Canadian Parks Service adopted the natural regions concept and prepared a framework for the systematic planning of national parks in Canada. The framework included both terrestrial and marine natural regions, with a view to ensuring that the selection of areas within them would present, "in true proportion, a representative, outstanding and unique sampling of Canadian landscape and natural phenomena." An updated National Parks System Plan was published in 1990 that presents the status of the national parks system in each of Canada's national park natural regions.

Currently, there are 39 terrestrial natural regions and 29 marine natural regions in the National Parks System Plans (Figures 5 and 6). Each natural region is distinguished by observable differences in vegetation, physiography, oceanography and environmental conditions. The main task related to the completion of the national parks system is the selection of potential sites within each of these regions and the negotiation of agreements between the federal government and other jurisdictions and with aboriginal people where appropriate. There is an urgent need to accelerate this process since large-scale land allocations are being proposed, particularly in British Columbia and Quebec.

If the terrestrial national parks system is to be completed by the year 2000, 18 new parks are required in this decade. This is a challenging task, given the complexity of federal-provincial relations, aboriginal land claims, and other difficulties encountered in the establishment of national parks. Equally challenging is the process of establishing marine national parks, especially since only 2 of the 29 natural regions are currently represented. CEAC's vision calls for the completion of a comprehensive system of national marine and freshwater protected areas by the year 2010.

Despite the obvious hazards attached to publicly identifying potential national park sites prior to securing the cooperation of the provinces, territories, aboriginal groups and local communities, CEAC believes that this should be done for every potential site in Canada. The situation requires dramatic action, and it is clear that the Canadian public strongly supports the completion of the national parks system.

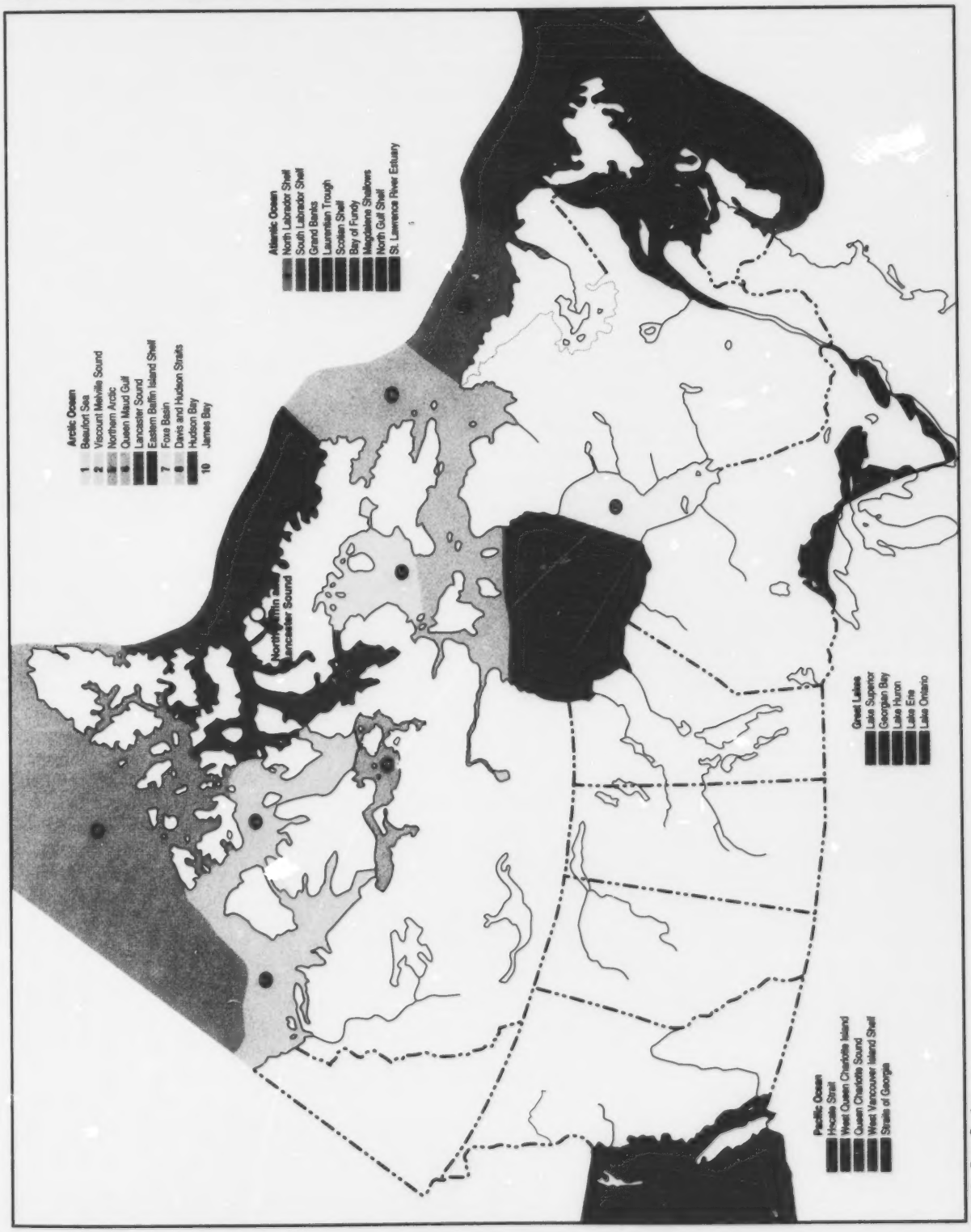
Establishment of New National Parks

Resistance to national park establishment is not easily overcome. In CEAC's view, future progress can only be achieved by the acceptance of a common vision and sense of urgency, combined with increased flexibility by the federal government on questions of ownership and management. Public consultation and extensive landowner and local community contact with Canadian Parks Service personnel and other protected area partners is also vital to success.

The Canadian Parks Service must work cooperatively with other protected area partners to identify the specific sites required to complete the national parks system and to complement the national parks system in other jurisdictions. These sites should be widely communicated to the public, and the need for development moratoria at potential sites should be candidly discussed so that all affected interests and groups have an opportunity to publicly present their concerns.

Figure 5 National Park Natural Regions

***Figure 6* Marine Regions of Canada**



New initiatives are required to capture public attention and to cultivate the existing broad-based support for protected areas. Without visible public support, individual attempts at park establishment can easily fracture into disputes over lesser issues. Broader understanding by all participants is the common ground on which flexibility can be exhibited and issues resolved.

Principle reasons for resistance to establishing national parks:

- unwillingness by governments to preserve wilderness areas in perpetuity;
- reluctance to transfer land to the federal government, and to permit exclusive federal management;
- lack of local community and landowner support;
- prior allocation of Crown land for selective commercial exploitation (for example, forestry, mines, oil and gas exploration);
- controversy over ownership, cultural and sovereignty issues; and
- outstanding aboriginal land claims.

Terrestrial Parks

The terrestrial national parks system is only half complete, with 18 of the nation's 39 terrestrial natural regions still not represented. The federal government is committed, through the Green Plan, to completing the terrestrial parks system by the year 2000. In accordance with this plan, at least five new parks should be established by 1996, and negotiations to establish the remaining 13 should be completed by 2000. To achieve this, the Canadian Parks Service will have to prepare an action plan that identifies the candidate sites requiring protection.

Moreover, a process must be designed that facilitates negotiations with appropriate parties.

The latter point is critical. While the Canadian Parks Service has an internal process that is well designed to identify potential park sites and their related social and economic impacts and benefits, it has not successfully secured the cooperation of other levels of government and aboriginal groups in many parts of Canada. The issue of "process" is of fundamental importance and requires much greater political attention, as well as the concerted support of protected area partners. Without this support, the Canadian Parks Service may simply be unable to meet the challenge of completing the terrestrial parks system.

As part of the external cooperation process, the Canadian Parks Service should give its regional offices responsibility to participate in negotiations for new parks, and should establish community liaison officers in the regions encompassing proposed parks. These officers should distribute information and answer the questions and concerns of local people and governments about the national parks program. The use of such an officer in the Bruce Peninsula in Ontario proved to be effective in securing local support for a proposed national park in that area.

Consideration should be given to securing land withdrawals or development moratoria on proposed park sites during negotiations. The potential economic impacts of withdrawal on local economies must be carefully addressed, but there is some evidence that this approach can be successfully applied. For example, the governments of Canada and the Northwest Territories agreed to a two-year withdrawal of land on Ellesmere Island during which time an agreement to establish a park was negotiated.

Many national parks will have to be included in comprehensive land-claim negotiations with aboriginal people in northern Canada, British Columbia, Quebec and Labrador. It is critical for the land claims process to specifically include a commitment to complete the national parks system. Aboriginal people should be provided with a list of candidate national park sites, and aboriginal support for development moratoria in these areas should be sought.

CPS W. Lynch

Equivalent Reserves

The protection of areas termed Natural Areas of Canadian Significance is the basis for establishing new national parks. The Task Force on Park Establishment (1986) suggested that Natural Areas of Canadian Significance could be protected not only by federally administered national parks, but also by protected area categories that are managed to national standards by other jurisdictions. This is the notion behind the equivalent reserves category suggested by the World Conservation Union. The task force recommended that such areas be called Canadian Heritage Lands. This approach was successful in breaking a long-standing impasse during the Grasslands National Park issue in Saskatchewan. In this case, the federal government assumes ownership of the park lands, while the province retains ownership of major river courses within the park under an agreement to manage them to national park standards.

The task force recommendation received a less than enthusiastic response from the Canadian Parks Service. The main concern was that this approach could compromise the integrity of the national parks system because of a weaker commitment by other jurisdictions through the Canadian Heritage Lands concept to the preservation mandate of national parks, and because of the potential lack of legislative protection for park boundaries. This concern has been given substance by political decisions in several provinces to delete park lands and allow industrial development within parks. CEAC believes, however, that the equivalent reserve concept should be utilized where appropriate since without it the national parks system may never be completed.

To promote further discussion of the equivalent reserves concept, CEAC suggests that the following criteria be applied by those governments that are willing to manage park lands to national park standards:

- a guarantee of legal protection for park boundaries;
- a legislative commitment to a co-operative management regime by all parties;
- a legal prohibition on logging, mining, hydro-electric dams, exploration and development for petroleum and natural gas, and other agreed upon activities;
- the development of an action plan to preserve the ecological integrity of the area;
- the implementation of interpretive programs to communicate national and regional conservation messages;
- a public commitment to manage most of the area as wilderness; and
- ongoing monitoring of the health of the protected area, including public reporting of relevant data in federal "State of the Parks" and "State of the Environment" reports.

There are precedents for the concept of equivalent reserves. Since 1969, Pacific Rim National Park has been administered under the West Coast National Parks Act, which is provincial legislation in British Columbia. This Act will be enforced until the park is proclaimed under the National Parks Act. Under the 1984 Inuvialuit Final Agreement, the Government of the Yukon is compelled, through legislation, to manage the Herschel Island Territorial Park to national park standards. This agreement clearly states that the wilderness characteristics of this park must be protected and its present undeveloped state maintained to the greatest extent possible. As another illustration, Forillon National Park is managed under a 99-year lease granted to Canada by the Government of Quebec.

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Marine Parks

Canada is a maritime nation. Thus, the conservation of biological diversity, representative areas, and cultural heritage must extend to Canada's marine and freshwater environments. The federal government can assert national leadership in marine conservation by completing a network of marine parks and protected areas that fulfil international obligations to manage this part of the "global commons."

The Task Force on Northern Conservation (1984) provided a rationale for establishing marine protected areas that applies equally well to southern Canada and to freshwater ecosystems:

- marine environments, like the terrestrial environment, are not uniformly productive; specific areas are biologically productive and require protection;
- marine ecosystems tend to be large and open-ended, but they contain key component areas that require protection to ensure the maintenance of the larger ecosystem;
- some form of protective status must be extended to areas such as bays and river mouths that are of particular importance to the abundance and survival of marine birds, fish and mammal populations; and
- representative areas require protection as the basis for scientific research and understanding of marine and freshwater environments.

In 1986, the federal government approved a national marine parks policy with the goal of establishing a marine park in each of 29 marine natural regions. Currently only two

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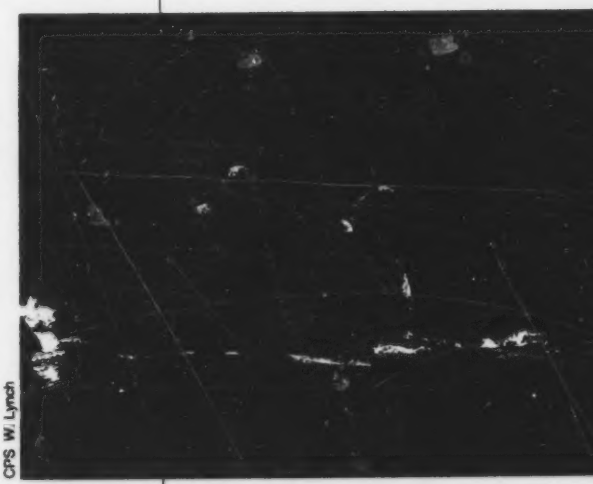
of Canada's marine natural regions are adequately represented by the marine parks system. Commitments to add two more – South Moresby/Gwaii Haanas and Saugenay – will provide representation for three additional natural regions (South Moresby marine park covers two regions). Under the Green Plan, the government is committed to establishing six new marine parks by the year 2000.

Since its inception, the Canadian Parks Service's National Marine Parks Program has received inadequate financial and staff support. This is due to the absence of a legislative mandate, and the lack of a distinct program identity within the Canadian Parks Service. The National Marine Parks Program could remain relatively inactive unless the Canadian Parks Service creates a program with adequate support.

A number of Canada's terrestrial parks are located adjacent to marine areas. Protection of the marine component is critical to the long-term protection and ecological integrity of national parks such as Terra Nova, Pacific Rim and the Northern Yukon. In such parks, management plans should define the policy and program elements needed to integrate and protect the marine component.

Many of Canada's national parks and other protected area sites may contain within their boundaries a marine or aquatic environment significant enough to have been an area where past human activity occurred. Unfortunately, the submerged cultural heritage is often unknown and may not receive management attention. The National Marine Parks Policy lacks direction



CPS W. Lynch

with respect to inventory, conservation, management and presentation of Canada's submerged cultural heritage. Internationally, involvement with local, regional and federal governments, environmental

groups, volunteers and other contributors has resulted in successful protection and conservation of these sites. The National Marine Parks Policy should be expanded to encompass planning and management issues related to Canada's submerged cultural heritage.

Further conservation gains in the marine environment can be achieved through the proposed Canada Oceans Act. It is imperative that the Act complement and supplement the National Marine Parks Program by creating a clear mandate for undertaking marine conservation actions and establishing a network of protected areas that ensures the protection of marine habitat, waters, mammals and fish stocks. Further, it should prohibit or control marine traffic and underwater exploration and development in ecologically sensitive areas. The Act should also include a mandate to conduct necessary research and ensure appropriate public education on the marine environment.

The United Nations Convention of the Law of the Sea (1982) is an important international mechanism to promote the conservation of the world's marine environments. Under the Convention, countries must institute pollution control measures "to protect and preserve rare or fragile ecosystems." Canada has yet to ratify the convention. It should do so to signal its commitment to marine conservation, and to provide an international context for the appropriation of the human and financial resources required to implement marine conservation programs.

Canadian Landmarks

In 1979, the federal government gave approval-in-principle to the Canadian Landmarks Program as part of the Parks Canada Policy. The purpose of the Landmarks Program was to protect specific natural or geologic features, sites or phenomena that are unique or rare in Canada. The program complemented the National Parks Program by focusing on sites rather than large areas, and on unique and rare, rather than representative, areas.

CPS D. Page

Despite strong support for its objectives within the conservation community, the Landmarks Program never emerged as an active program due to insufficient financial and organizational support. The benefits of this program, particularly as a vehicle for promoting federal ecological reserves and private stewardship programs, have not been realized. The Landmarks Program could be used to support the protection of sites of national significance by assisting private organizations to raise funds, and by attracting corporate, university and public support for national conservation objectives. It could provide national recognition for specific natural features and sites valued by local communities. Tax incentives could also be given to encourage private donations of significant sites.

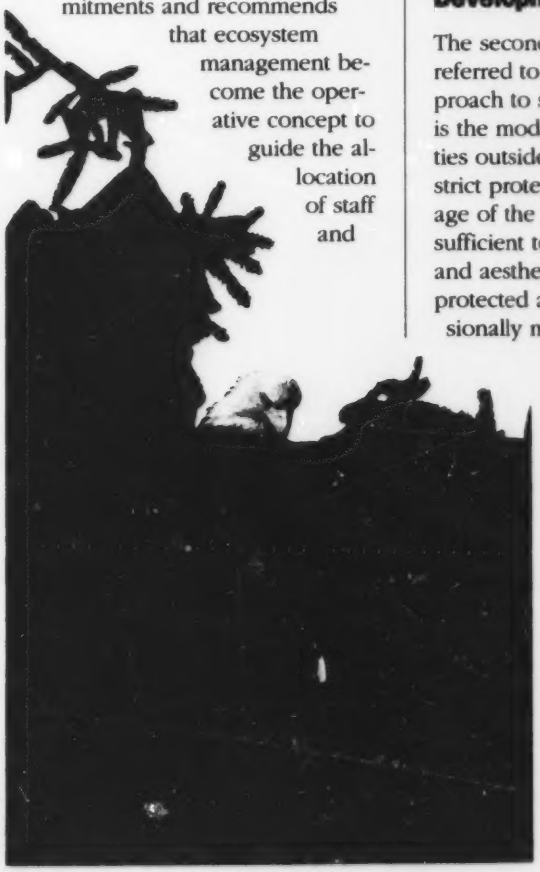
One landmark currently exists, the Pingo Canadian Landmark near Tuktoyaktuk. There is an opportunity to develop another landmark, under the 1984 Inuvialuit land-claim settlement, at Nelson Head on Banks Island. Over the past two decades, the Canadian Parks Service has identified other potential sites across Canada. To further explore the potential for landmarks to contribute to private stewardship and ecological reserve programs, the federal government should work with conservation groups and the Canadian Council on Ecological Areas to recommend criteria for the use of the landmark designation, and should ensure that adequate financial and organizational support are provided for the Landmarks Program.

Management of National Parks

The federal government must demonstrate leadership in protected areas management. It manages the largest protected areas network in Canada, the National Parks System, as well as almost 150 National Wildlife Areas and Migratory Bird Sanctuaries. The development and application of ecosystem management techniques in a network that spans the entire country would enable effective communication among all jurisdictions in Canada.

Parliament amended the National Parks Act in 1988 to make the maintenance of ecological integrity the priority in park management strategies. The public consultations on the Green Plan demonstrated strong public support for this priority. The Canadian Parks Service thus has a legislative mandate and a public imperative to demonstrate national leadership in implementing ecosystem-based management of the country's national parks. The Green Plan further commits the federal government to strengthen scientific research and to implement measures to protect the vast array of natural resources in national parks. This will require enhanced resource management programs and substantially upgraded staff training in natural resource protection.

CEAC acknowledges these commitments and recommends that ecosystem management become the operative concept to guide the allocation of staff and resources to meet the commitments outlined in the Green Plan. To support an ecosystem management program, each regional office of the Canadian Parks Service should establish a chief scientist position to head a team of natural and social research scientists. In partnership with the Canadian Parks Service, universities should be involved in both defining and implementing research programs in support of ecosystem management. Equally, the Canadian Parks Service should more fully support the essential roles of cooperating associations and the Canadian Parks Partnership in delivering park research, interpretation and community outreach educational programs.



CPS W. Lynch

A Coordinated Federal Approach to Sustainable Development

The second prong of what has been referred to as the two-pronged approach to sustainable development is the modification of human activities outside of protected areas. The strict protection of a small percentage of the land and seascape is not sufficient to guarantee ecological and aesthetic sustainability. While protected areas should be professionally managed to ensure the maintenance of their ecological integrity, most human activities occur outside of these areas. These external activities must also be put on a sustainable development path. The federal government has an equally important role to play in support of this mission, both on federally managed land and in partnership arrangements with other levels of government.

J. Butler

Federal Land Management

The federal government made a number of important commitments in Canada's Green Plan (1990). Many of these can contribute to improved federal land management, including:

- the legislation for a Canadian Environmental Assessment Act;
- the publication of State of the Environment Reports on a regular basis;
- the development and publication of Environmental Indicators; and
- the development and enhancement of environmental monitoring systems and programs.

These commitments, along with the specific programs and initiatives announced in the Green Plan, provide a new context for cooperation among federal ministers and their departments. They require a fresh look at, and possible revisions to, the Federal Policy on Land Use,

which was designed to guide the activities of the federal government on the use of private and public land throughout Canada.

The Interdepartmental Committee on Land used to serve as an effective focal point for the implementation of the Federal Policy on Land Use and as the coordination centre for federal-provincial-territorial discussions on land-use matters. With the release of the Green Plan, CEAC looks to the Interdepartmental Committee on Land to assume a more vigorous role in reviewing and refining federal policies and programs to ensure the wise use of Canada's land resources. This enhanced role will require much greater support from all federal departments due to the decline in support by Environment Canada in recent years.

In regard to the protected areas agenda, the Interdepartmental Committee on Land should, for example, explore the protection of ecologically significant habitat on land administered by the Department of National Defence, including prairie grasslands at Canadian Forces Base Suffield in Alberta, and aspen parkland at Canadian Forces Bases Shilo in Manitoba and Wainwright in Alberta.

Greater internal coordination is needed between the Interdepartmental Committee on Land and other interdepartmental committees, such as the Interdepartmental Committee on Water. These internal committees should play an important role in the commitment made in the Green Plan to thoroughly review the environmental implications of all existing federal statutes, policies, programs and regulations. The review must result in institutional changes that ensure that federal departments and agencies adhere to the principles outlined in the Green Plan, and that they are held accountable for results.

Northern Canada

The federal government is currently responsible for over 40 percent of Canada's landscape through its administration of land and almost 14,000 separate properties in the Yukon and Northwest Territories. Northern Canada contains some of the world's largest remaining tracts of wilderness, and is the homeland of many aboriginal people who share traditional interests in the conservation of northern ecosystems. The Task Force on Northern Conservation (1984) concluded that the need for a network of protected areas in the North is "beyond question." It defined the challenge as one of meeting "the special needs of the North while respecting the broader obligations of the national and international communities."

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Political, cultural, social and economic forces are quickly determining the future allocation and use of northern lands. This future is being actively shaped by comprehensive land-claim settlements, community-based regional land-use planning, and the devolution of specific powers to the territorial governments.

Northern peoples are defining their needs through land claims and land-use planning provided for under the claims. It is incumbent on the federal government to speak and act for broader obligations by pursuing the protection of natural areas that are in the national and international interest. The federal government should identify and communicate in detail its plans for northern protected areas to the land-claims and land-use planning fora, including proposed plans for national parks, national wildlife areas and migratory bird sanctuaries. For example, firm action should be taken to protect the 136 special places in the North identified by Environment Canada in 1982.

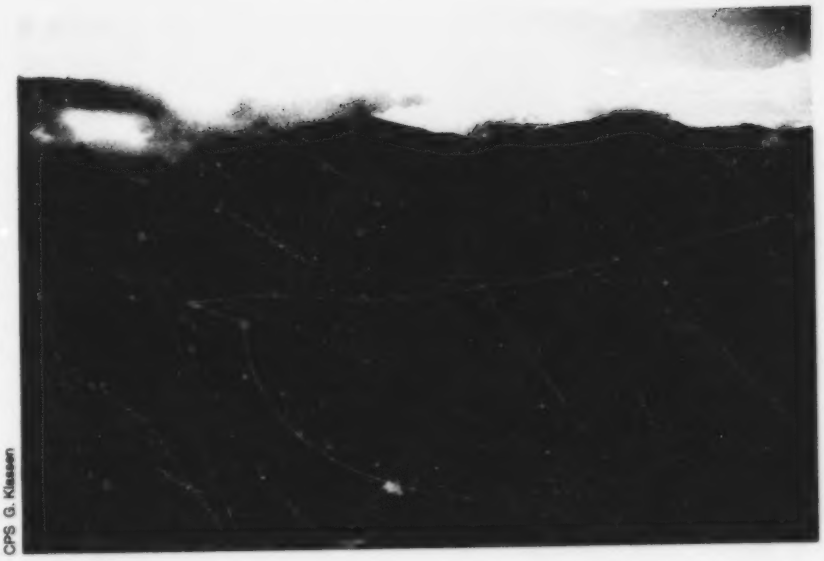
Both of Canada's territorial governments are developing park systems. The Government of the Northwest Territories, while having no immediate plan to develop a natural regions framework, is examining the potential for ecological reserve legislation. Protected area programs

are seen in both jurisdictions as part of broader conservation or sustainable development strategies. Protected areas managed by the territories, however, cannot be established until the federal government transfers control over these lands to the territorial governments. In addition, the ability of the territorial governments to administer protected areas depends on the allocation of funding from the federal government. Thus, the federal government should consider supporting the protection of representative and unique natural areas in the North through the transfer of human and financial resources, as well as land.

Under the aboriginal land-claims process, local communities are identifying and selecting large tracts of land for potential ownership. If the federal and territorial governments wish to protect specific natural areas, it is important that they identify these areas and negotiate with aboriginal people for their inclusion within a network of protected areas. Otherwise, governments may have to form private stewardship agreements with native communities or negotiate complicated land swaps to protect lands of national significance in the future.

Wilderness Management

The preservation of extensive wilderness landscapes is a distinct and critical ecosystem management objective. The legislative basis for the preservation of wilderness areas in Canada, however, is extremely weak, and the protection of wilderness areas in land allocation processes has not been a priority. Hence, many wilderness areas do not fall within the strict definition of protected areas used in this report.



CPS G. Klassen

The federal government cannot act unilaterally to protect wilderness landscapes across Canada, except on federal (public) lands or by designating such areas within existing national parks. The Canadian Parliament, however, does have a unique role to play in promoting the importance of wilderness to our national heritage. This heritage has been defined and strengthened in many ways over the decades, from Victorian landscape painters through to a contemporary focus on the protection and presentation of wilderness landscapes in various categories of protected areas. The visible support of all of Canada's political leaders for wilderness preservation and conservation would be a significant contribution to CEAC's protected areas vision.

The federal government must actively promote the concept and the need to preserve wilderness areas and landscapes. It must continue to develop wilderness management expertise and protect wilderness zones in national parks, and it should review existing federal programs and policies to ensure that they do not contribute to the loss of significant wilderness resources. The overall focus of a federal wilderness program should be to promote wilderness as part of our natural and cultural heritage, and to encourage action by provincial, territorial and other jurisdictions to protect such areas.

Canada is fortunate. Most countries do not have the expanse of wilderness lands that Canada possesses. This is Canada's global inheritance, and Canadians must ensure that wilderness endures for the benefit of future generations. The Canadian Parliament must take vigorous action to promote wilderness preservation, including the enactment of wilderness legislation for this purpose.

Wildlife Management

To conserve biological diversity, the protection of wildlife and wildlife habitat must become a priority. The loss or alteration of natural habitat by human activity, particularly in southern Canada, has increased the number of endangered and threatened plant and animal species.

In September 1990, the Wildlife Ministers' Council of Canada adopted a Wildlife Policy for Canada. The policy encourages governments to plan and implement comprehensive and cooperative programs to maintain the abundance, diversity and distribution of wildlife habitat within major ecosystems. More specifically, it directs governments to:

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- complete and properly manage a comprehensive system of protected areas that includes representative ecological types, giving priority to endangered or limited habitats;
- include conservation of wildlife habitat as a management objective for all sectors using public lands;
- provide for conservation of the full range of wildlife habitat in land-use planning, setting regional goals for this purpose; and
- encourage conservation of wildlife habitat on private lands.

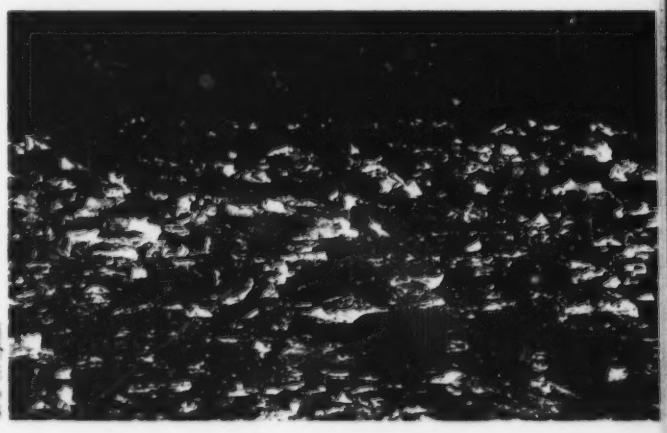
To fully implement this policy, particularly with respect to protected areas, cooperation is required among the Federal – Provincial/ Territorial Parks Council, the Wildlife Ministers' Council of Canada, appropriate environmental organizations, and the Canadian Council on Ecological Areas. Cooperation can be a powerful force in ensuring protected area systems encompass important wildlife habitat and conserve biological diversity.

The federal government endorsed the Wildlife Policy for Canada in the Green Plan; the government must now become a strong and persuasive force for protecting wildlife habitat. The Canadian Wildlife Service must provide enhanced leadership in wildlife management and wildlife habitat protection. It should act as a catalyst for defining and achieving national wildlife conservation goals and habitat requirements, and promoting coordinated action by governments, industry, conservation groups and private landowners.

The Green Plan commits the federal government to establishing a National Wildlife Habitat Network by 1992. Consideration should be given to achieving this commitment through the Canada Wildlife Act by more fully utilizing federal designations such as National Wildlife Areas and Migratory Bird Sanctuaries. Unlike the National Parks Act, this legislation has the advantage that it does not require federal title before the federal government can assist other jurisdictions in resource conservation objectives.

A review is required of all federal policies and programs that lead to the destruction of wildlife habitat. A 1990 report by Wildlife Habitat Canada, entitled *Common Ground*, concluded that federal agricultural policy has "created an economic framework for farmers that works at cross-purposes with objectives for the environment and wildlife habitat." Current farm policies often reward further expansion of croplands regardless of whether they will be used for crop production. Few incentives or rewards are provided to farmers to reserve land for habitat conservation or other environmental purposes.

Finally, Canada can make a unique contribution to global and national conservation through the protection of habitats for large carnivores such as grizzly and polar bears, mountain lions and wolverines. The protection of large tracts of wilderness is essential to the survival of these large carnivores because they are largely confined to remote areas. Action on the World Wildlife Fund's Carnivore Conservation Strategy is required. Critical carnivore habitats should be included within protected areas, and broader habitat requirements should be maintained through ecosystem management programs.



CPS W. Lynch

Recommendations

To demonstrate national and international leadership on protected areas establishment and management, the federal government should:

33. Establish national parks or equivalent reserves in every terrestrial National Park Natural Region by the year 2000, and in every marine Natural Region by 2010.

34. Increase funding to the Man and the Biosphere Program and work closely with the Canada Man and the Biosphere Committee to promote the stewardship of all protected areas and surrounding regions in accordance with biosphere reserve principles.

35. Ratify the United Nations' Convention on the Law of the Sea (1982) to affirm commitment to marine conservation and to provide an international context for the appropriation of the resources required to implement marine conservation programs.

36. Conduct regular public assessments to ensure that World Heritage Sites, Biosphere Reserves and Ramsar Sites are managed in conformity with international commitments. Such assessments should be summarized and included in State of the Parks Reports and State of the Environment Reports to the Canadian Parliament.

37. Make a visible and substantive effort to ensure that protected areas are prominently discussed, and present a Canadian master plan for protected areas, at the 1992 United Nations Conference on Environment and Development in Brazil.

To ensure that sustained progress is made on completing the terrestrial national parks system by the year 2000, the Canadian Parks Service should:

38. By the end of 1993, publicly identify all candidate national park sites in the 18 Natural Regions of Canada that are still not represented in the terrestrial parks system.

39. Establish a comprehensive consultation and negotiation process with other levels of government, aboriginal groups and relevant local communities and interests to validate and/or modify new park sites and boundaries and management criteria for these areas.

40. Significantly strengthen the ability of Parks Service regional offices to participate in negotiations for new parks, including the establishment of community liaison officers in regions encompassing proposed parks.

41. Participate fully in comprehensive land-claim negotiations with aboriginal people, particularly in northern Canada, British Columbia, Quebec and Labrador, to secure commitments that contribute to completing the national parks system.

42. Establish national standards for equivalent reserves, working with the Federal/Provincial Parks Council and in consultation with conservation groups and interests, and apply these standards where appropriate.

43. Adopt and apply the concept of equivalent reserves to establish parks in jurisdictions that are willing to manage park lands to national standards.

To ensure that sustained progress is made on completing the marine national parks system by the year 2010, the Canadian Parks Service should:

44. Establish a marine parks advisory board to solicit advice from a broad range of stakeholders involved in the use and protection of marine resources.

45. By the end of 1992, establish a separate program identity and branch within the Canadian Parks Service to be responsible for achieving progress on the marine parks program.

46. By the end of 1993, prepare an action plan to guide the completion of the marine national parks system by the year 2010.

47. Provide adequate staff and financial resources to support the work of the new marine parks program.

48. By the end of 1994, table a National Marine Parks Act in the House of Commons.

49. Ensure that the proposed Canada Oceans Act supports the establishment of marine protected areas, appropriate research and education programs, and ecosystem management as the underlying concept behind stewardship of marine resources, and that it specifies limits on commercial and industrial activities that might damage sensitive marine habitat.

To ensure that terrestrial and marine national parks are managed on an ecosystem basis and that priority is placed on maintaining ecological integrity, the Canadian Parks Service should:

50. Identify the natural and social science information and research needed to manage the parks on an ecosystem basis.

51. Adopt a set of ecological indicators that characterize the overall health of the national parks system, and publicly report such indicators in biennial State of the Parks Reports.

52. Establish a chief scientist position to head a team of natural and social scientists within each regional office of the Canadian Parks Service, and to establish links with scientists in other agencies and groups. Establish, at a minimum, a resident scientist/research officer and a research office in each national park to encourage, coordinate, conduct, and interpret research.

53. More fully support and fund the work of Cooperating Associations and the Canadian Parks Partnership to complement existing agency work on natural and social science research, interpretation, public education and community outreach.

54. Strengthen agreements with universities and other educational institutions to enhance cooperative programs in research, training and information exchange.

To ensure that all federal departments and agencies contribute to the protected areas vision, particularly with respect to the conservation of lands and waters outside of national parks and other protected areas, the following actions should be implemented:

55. The Federal Policy on Land Use should be reviewed and, where appropriate, revised to ensure that all federal activities support habitat and wildlife protection and enhancement.

56. The Interdepartmental Committee on Land should assume a more vigorous role in reviewing federal policies and programs, and in monitoring the implementation of the Federal Policy on Land Use and other relevant federal land management policies.

57. By the end of 1994, the federal Parliament should pass a Canada Wilderness Act to promote the heritage values of wilderness to Canadians, to require the protection of wilderness in federal land-management policies and programs, and to promote cooperative action across Canada to protect and properly manage nationally significant wilderness landscapes.

58. The Canadian Wildlife Service should be strengthened to enable it to better promote and coordinate action by governments, industry, conservation groups and private landowners toward achieving national goals in wildlife and habitat protection as reflected in the Wildlife Policy for Canada (1990).

59. By the end of 1992, the Canadian Wildlife Service should identify, on a significant scale, a complete system of candidate areas that could be protected as national wildlife areas under the Canada Wildlife Act and that could contribute to the Green Plan's commitment to establish a national wildlife habitat network.

60. Special attention should be given to the protection of adequate habitats for large carnivores through the endorsement of and support for the World Wildlife Fund's Carnivore Conservation Strategy.

61. All federal departments and agencies, and the Department of Finance and Treasury Board in particular, should review in-depth the financial and other incentives built into federal policies and programs, to ensure that such incentives are modified where they are inconsistent with modern environmental land ethics and the protected areas vision.

To enable other jurisdictions and stewardship initiatives to achieve recognition for contributing to the protected areas vision, the federal government and the Canadian Parks Service should:

62. Retain and expand the use of the Canadian Landmarks designation to foster partnerships that can make significant progress in protecting wild genetic resources and unique natural sites, and in establishing new ecological reserves.

7 Fulfilling the Vision Nation-Wide

CPS F. Mayrs

There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.
On such a full sea are we now afloat;
And we must take the current when it serves,
Or lose our ventures.

Shakespeare
Julius Caesar, Act 4, Scene 3

Defining, establishing and managing a comprehensive network of protected areas will require the active participation of many groups and individuals, in addition to the work of all of Canada's federal, provincial and territorial governments. The following brief descriptions of some key actors and the roles they could play are provided to illustrate the range of actions required. The coverage of key actors is necessarily circumscribed due to the large number of groups that support protected areas across the country.

Governments

Leadership by federal, provincial, and territorial governments is required to complete the protected areas network. Most of the larger protected areas are located on Crown land and require cabinet decisions to ensure appropriate land allocations. Legally defined protection instruments and management authorities are also within the domain of governments. Governments can also impose moratoria on developments in potential protected areas to ensure options are not lost while these areas are examined in greater detail. For example, Saskatchewan's *Parks Act* contains Park Land Reserves to protect and manage areas being reviewed for park status. Finally, consultation with the complete range of people and interests potentially affected by the establishment of large protected areas is a task that can be included in governmental decision-making processes, such as regional land-use planning and environmental impact assessments.

Protected area agencies require legislative mandates as well as human and financial resources to establish and manage the protected areas network. To that end, CEAC looks to all governments to make cabinet commitments to complete the protected areas network, to approve protected area system plans in every jurisdiction, and to identify and consult with the public on candidate areas requiring protection. Specific action plans will be necessary to ensure the completion of the protected areas network by the year 2000 (2010 for marine and freshwater protected areas).

Ministers of the Environment and Parks

In all jurisdictions, it is the special role of the Ministers responsible for the environment and parks to promote a vision for protected areas that will capture the imagination and support of the Canadian public. This can be done both individually and through cooperative fora, such as the Federal-Provincial/Territorial Parks Council and the Canadian Council of Ministers of the Environment. The Federal-Provincial/Territorial Parks Ministers took a progressive first step on September 14, 1990, when they issued a joint statement of principles entitled, "Sustainable Development: A Special Role for National, Provincial and Territorial Parks." The Ministers agreed to take action to ensure that the following principles are applied:

- Preservation – Park lands have an essential role to play in establishing a comprehensive network of protected areas. As part of a nation-wide family of protected lands, parks complement and enhance efforts to protect unique sites of cultural and natural significance, and to preserve representative samples of ecosystem types.
- Conservation – Park lands will be managed to maintain and restore essential ecological processes, to maintain biological diversity, and to ensure that all park uses are sustainable.
- Economic Development – Park lands provide an economic benefit by encouraging tourism and meeting the demand for outdoor recreation. Appropriate economic opportunities will be explored, wherever possible, as a means of incorporating parks into regional economic diversification initiatives.
- Adjacent Land Use – Park lands can be affected by adjacent land uses. Park agencies will play a lead role in identifying park values that must be considered in planning and managing the use of nearby lands.

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- Public Participation – Park lands must be managed with meaningful participation by an informed public. Sustainable development depends on the involvement of all citizens to identify opportunities and to solve problems.

- Public Information and Education – Park lands provide opportunities to promote the concept of sustainable development. Park agencies will facilitate or enhance park information or education programs designed to broaden understanding of this concept.

It is essential that such statements of principle be carried forward into specific actions to implement these principles in all relevant government planning and decision-making structures, including federal-provincial Regional Development Agreements or their equivalents. Intergovernmental bodies, such as a more strongly mandated and adequately supported Federal/Provincial Land Use Committee, should also promote the need to complete the protected areas network as well as the need to establish connecting corridors between protected areas, as called for by the emerging principles of conservation biology.

Round Tables on Environment and Economy

In response to the recommendations made by the National Task Force on Environment and Economy (1987), every provincial and territorial government in Canada has formed a round table on environment and economy. In addition, the federal government has created a National Round Table.

The round tables bring together senior decision makers from different sectors of Canadian society, including representatives of government, industry, native organizations, environmental groups, academia and private individuals. Their mandate is to promote environmentally sound economic development. They report directly to the First Minister in each of their respective jurisdictions.

Most round tables are, with government support, committed to preparing sustainable development strategies, or, in some cases, conservation strategies. The strategies will define future policies and directions based on widespread public consultation and the full involvement of all sectors of society. This approach offers promise for Canada to build consensus and the will to carry through on the many difficult issues underlying sustainable development.

The integration of environmental action plans into the sustainable development strategies of the round tables is essential both to legitimize the strategies and to ensure that the activities of all sectors of society contribute to sustainable development. In this manner, the protected areas agenda can be given substance as well as informed public support. The importance of protected areas in promoting sound environmental practices over the entire Canadian landscape can also be effectively communicated to the public through these mechanisms.

Within this context, CEAC urges all round tables to ensure that protected areas are specific components of the sustainable development strategies in every jurisdiction. This attention by round tables is central to the articulation and implementation of CEAC's vision for protected areas. The protected areas component of a sustainable development strategy should be viewed as a core element of the strategy, around which other components are built and integrated.

Environmental Agendas and Action Plans

The federal government has developed a government-wide environmental action plan, called the Green Plan. Other governments have made or are considering making similar commitments. These initiatives provide opportunities to advance protected area objectives. In particular, governments should ensure that adequate resources are specifically allocated to implement protected area programs.

CPS W. Lynch

CEAC strongly urges that all government action plans place a priority on the protection of biodiversity and ecological processes. These plans should also include target dates for the completion of regional and national networks of protected areas. Milestones should be clearly identified in progress reports and should include deadlines for the development of protected area system plans and the formal endorsement by cabinets of these plans.

Recent Progress on Protected Areas in Canada

In recent years, several jurisdictions have made significant contributions to Canada's protected areas agenda. These include:

- commitments by the governments of Canada, Ontario, Manitoba, Saskatchewan and Yukon to complete their terrestrial protected area systems by the year 2000;
- establishment of Newfoundland's first wilderness reserve – the Bay du Nord Wilderness Area;
- establishment of six additional ecological reserves in British Columbia (the total now exceeds 125 reserves), and widespread public consultations on additions to the B.C. parks system;
- withdrawal from development of 3.5 million hectares by the Government of Quebec in order to develop precise boundaries for 20 new parks;
- prohibition of a range of commercial extractive activities from Ontario's wilderness and nature reserve parks;
- prohibition of mining in Saskatchewan's provincial parks;
- signing of a federal-provincial agreement on conservation and development in Prince Edward Island;
- proclamation of a new Parks Act in Saskatchewan in 1986, and establishment of the province's first wilderness park;
- establishment of 12 new ecological reserves in Alberta that protect 30,000 hectares in total; and
- release by New Brunswick of a Provincial Parks and Heritage Sites Master Plan that contains a strategy for developing the provincial parks system over the next 10 years.

Aboriginal Land-Claim Settlements

Comprehensive aboriginal land-claim settlements provide powerful instruments for the establishment of protected areas. Aboriginal people are defining their interests in the ownership and management of terrestrial and marine natural resources and ecosystems. Land-claim agreements in northern Canada provide for the identification and establishment of national parks and other protected areas, subject to recognition of aboriginal rights and to the development of mutually acceptable management arrangements.

Some of the greatest opportunities for securing contributions to the national network of protected areas are presented by the land-claim settlements, many of which should be resolved during the next decade. It is important to reach agreement with aboriginal people on the critical wilderness areas and landscapes to be protected, and on the appropriate institutional mechanisms to ensure continuing protection. Land claims, however, should not be viewed as a panacea. Protected area agencies and supporters must recognize the broader aspirations of aboriginal people when pursuing the protection of natural areas through the claims process.

Consideration should be given first to establishing common objectives and mutually agreeable criteria for selecting sites for protected areas within a given claim area. Governments and aboriginal people should then work toward management frameworks that protect designated areas and meet common objectives. Finally, legislative frameworks should be established to enshrine conservation objectives and aboriginal goals.

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George Erasmus, former Chief of the Assembly of First Nations, has suggested the adoption of the following points when pursuing the establishment of protected areas on lands where natives have legal and cultural interests:

- native people must be involved and have a measure of control over decisions regarding the creation, design, and management of protected areas;
- when changing unoccupied Crown land to park status, the right of native people to access must be guaranteed;
- in areas where land title has not been resolved, the right of indigenous title and self government must be constitutionally recognized when protected areas are proposed;

- where there are existing treaties that include harvesting rights, establish joint management regimes where native people have a direct partnership role in protected areas management;
- wildlife must not be affected by roads and other developments constructed to facilitate public access and use of protected areas; and
- hiring practices must reflect greater acknowledgement of native contribution, experience and potential in the design and management of protected areas.

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The result is that establishing protected areas in the context of aboriginal land claims can be complex and time consuming. It is nevertheless an important opportunity that must be pursued.

Protected Area Partners

Given the scope of the national protected areas network and the very high level of public support for completing the network, the number of protected area partners is almost limitless. This section briefly describes the roles of the corporate sector, academia, the Canadian Council on Ecological Areas and the Nature Conservancy of Canada. This coverage provides examples and is not meant to overlook other equally important groups, particularly those at the provincial and territorial levels, and the many regional and local groups across Canada.

Corporate Action

Corporations, collectively, are the principal development agents in Canada. They possess enormous resources that can be directed in many different ways while still achieving profitability criteria. Large tracts of Crown land are frequently allocated for various resource extraction purposes. It is essential that such allocations respect the need to set aside unique and representative natural areas, and that commercial resource developments are managed so as to ensure that protected areas remain unimpaired.

CEAC calls for proactive and responsible leadership by Canadian industry in the national effort to identify and establish the protected areas network. Corporate knowledge of resource stocks, regeneration rates, and genetic diversity will become increasingly valuable to the protected areas vision. Corporate understanding and support for the protected areas vision is largely untapped and should be actively cultivated. Through participation in developing the network, corporations will become equal owners and protectors of this vital Canadian asset.

Both the Alberta and Canadian Chambers of Commerce demonstrated such leadership in 1990 when they resolved that the governments of Alberta and Canada, the private sector, and the public at large should "work cooperatively to establish a system of protected areas . . . by early in the next century" that represents the natural regions within the Alberta and federal jurisdictions. In British Columbia, MacMillan Bloedel has endorsed the completion of the federal and B.C. provincial parks system by the year 2000, as well as the B.C. Ecological Reserves Program.

Academia

Research is one of the most neglected and under-funded aspects of protected areas. Ecosystem research includes research at varying scales, from site-specific ecological research to monitoring the impacts of atmospheric pollutants and global climate change; and it includes research on the interactions between humans and their surrounding environments.

The academic sector has a much greater role to play, along with governments and other groups, in establishing baseline research centres in each of Canada's natural regions. The academic sector can also contribute to enhanced education and interpretation programs in protected areas. There is a need for increased professionalism, for example, in park research programs, which the academic sector is uniquely positioned to support.

Independent studies are needed to determine the location of candidate protected areas and to assess the socio-economic impacts and benefits of specific proposals. The University of Waterloo recently completed the first comprehensive socio-economic analysis of the proposed South Moresby national park.

In addition, Simon Fraser University examined the impacts on the forest industry of doubling the protected area land base in British Columbia, concluding that doubling this base would only result in a 3.5 percent reduction in the annual allowable cut. Greater financial support should be provided to the academic sector to ensure that such studies are conducted more often.

Canadian Council on Ecological Areas (CCEA)

The CCEA is a forum supported by most governments in Canada, with a mission to promote the establishment of a national network of ecological reserves and equivalent areas.

The CCEA adopted the Terrestrial Ecoregions of Canada framework and is currently developing a national protected areas system plan and conducting an assessment of ecological reserves. Within the ecoregions framework further work needs to be done on developing criteria to define "adequate representation" for systems planning and evaluation purposes. The CCEA is an appropriate group to develop such criteria and to promote the establishment of a system of protected areas that represents Canada's biogeographical diversity. In concert with the State of the Environment Reporting Branch of Environment Canada, the CCEA is using a national conservation areas database comprising over 3,000 sites that have been entered into a computerized Geographical Information System. The CCEA also plays a useful role by encouraging interjurisdictional cooperation on the establishment and management of transboundary protected areas. Hence, it can perform important scientific, information sharing and promotional roles.

Nature Conservancy of Canada

The Nature Conservancy of Canada is attempting to establish a number of Conservation Data Centres in conjunction with provincial governments and regional conservation groups for the purpose of locating significant species and ecosystems requiring protection. This database will be invaluable in designing the national and regional networks of protected areas and providing relevant information for environmental assessments and land-use planning. Partnership approaches such as this will become increasingly important as the need for local and regional ecological information increases.

CPS J. Poirel

Private Stewardship Initiatives

The realization of CEAC's vision for protected areas will require the dedication of both public and private lands. It is particularly important to secure the protection of local and regionally significant habitats and species that are not included in the large system plans of governments.

Private stewardship generally involves small areas compared with the large public parks and nature reserves, although land-claim settlements may result in large private land holdings by aboriginal people. Thus, there are tremendous opportunities for private stewardship, but there are also very real constraints, especially concerning the protection of large predator species and ecological processes.

Despite the constraints, private stewardship can make a valuable contribution to the protected areas agenda in several ways, including:

- identifying unique and endangered species and habitats that should be protected;
- purchasing and protecting land;
- directly contacting members of the public who are eager to do something about protecting species and habitats;
- filling critical gaps in the protected areas network where government parks and reserves may never be created (for example, tall grass prairie conservation);
- protecting smaller tracts of land surrounding and/or connected to parks and larger protected areas;
- educating the public in local, easy-to-access, settings; and
- developing innovative ways to protect private land (for example, legal covenants applicable to land sales and transfers).

Private stewardship groups and individuals can also play useful roles in establishing larger protected areas. Governments often lack a local presence and are less readily

Clyde River and World Wildlife Fund: Partners in Protected Areas

A Bowhead Whale Sanctuary

The Community of Clyde River, working with the World Wildlife Fund (Canada), has developed a conservation plan to protect bowhead whales at Isabella Bay on Baffin Island, Northwest Territories. Commercial harvesting a century ago reduced the whale population from 11,000 to approximately 300, and there is no indication that the population is recovering. The conservation plan aims to protect the bowhead whale and its habitat from disturbance and pollution, assist in the recovery of the bowhead whale population, and protect an important cultural heritage of the Inuit of Baffin Island.

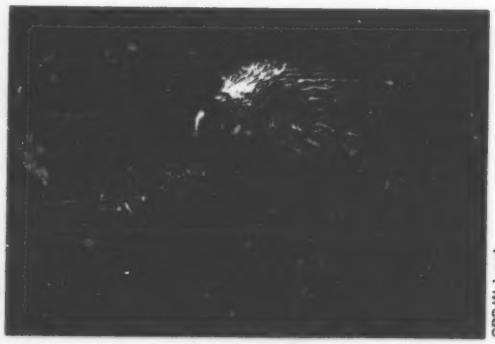
The conservation plan calls for the following:

- the establishment of a whale sanctuary under the federal *Fisheries Act* to protect the critical habitat of the whale;
- the establishment of a biosphere reserve to draw international attention to the plight of the bowhead whale and to promote sensitive uses around the sanctuary; and
- the use of territorial legislation to protect important archaeological sites.

The community of Clyde River prepared the conservation plan to secure government leadership in the protection of the bowhead whale. It also hopes to draw public attention to the urgent conservation needs of the bowhead whale through the sharing of local knowledge and concerns.

To protect the whales, hunting is no longer allowed. Government leadership and local cooperation, however, are required to address other potential threats to the area including pollution, local traffic, resource development and armed forces activities. The plan seeks to address these issues through the whale sanctuary and biosphere reserve.

This conservation plan is an excellent example of a partnership between a local community and a conservation group for the purpose of protecting areas of national and local conservation significance. It also affirms the need for governments to play leadership roles in protecting endangered species and their critical habitats, and in supporting the conservation objectives of partnerships.



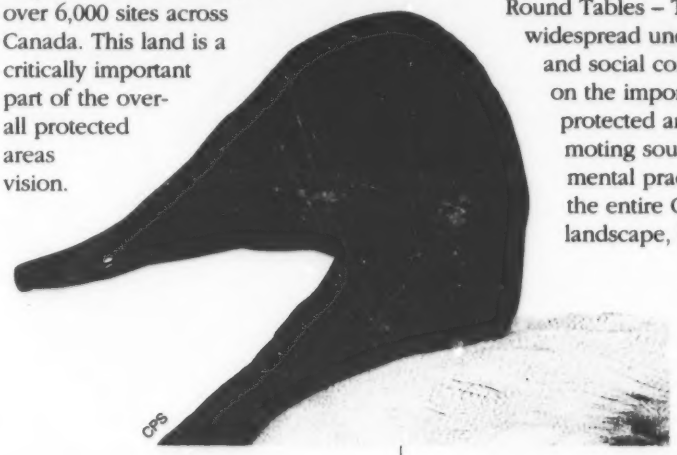
CPS W. Lynch

accepted than private groups and individuals in a given area. Landowner contact is becoming increasingly important to acquiring and protecting large tracts of land. Hence, private stewardship should be nurtured by governments and drawn upon in the effort to secure local support for designating new protected areas.

The constraints to private stewardship are most evident with respect to limitations of staff and funding. In addition, the existing legal framework provides for the protection of material and cultural wealth but not for biological wealth. Therefore governments should do more to stimulate private stewardship through changes to legal, financial and tax incentive structures, and through the formal recognition of private stewardship initiatives using mechanisms such as the currently inactive Canadian Landmarks Program and Ontario's *Conservation Lands Act*. There is considerable evidence that public recognition for contribution and achievement is a powerful motivator for private stewardship.

The North American Waterfowl Management Plan supports private stewardship by providing financial incentives to encourage the protection of wetlands and staging areas important to migratory waterfowl. Under this program, over 2 million hectares of habitat could be restored and protected in Canada during the 1990s. The plan has been especially effective at supporting farm-level conservation initiatives. It is an example of the kind of incentive structure needed to effectively support private stewardship initiatives. Private stewardship has also been effectively promoted by non-governmental organizations, such as through the use of landowner agreements by Ducks Unlimited Canada and the acquisition of lands

by the Nature Conservancy of Canada. In total, approximately 7 million hectares of land are managed by private foundations, particularly by Ducks Unlimited (about 95 percent of the total), in over 6,000 sites across Canada. This land is a critically important part of the overall protected areas vision.



Recommendations

Fulfilling the protected areas vision nation-wide will require the contribution of all protected area partners. The following recommendations illustrate the actions that some key groups might undertake; however, the protected areas vision calls for action by a much larger array of supporting groups and individuals.

Governments – In addition to other recommendations already made throughout this report, governments should:

63. Ensure that fora such as the Federal-Provincial/Territorial Parks Council work cooperatively to complete the national protected areas network by the year 2000, and to complete the marine and freshwater system by 2010.

64. Develop programs that enable local communities, conservation groups and other partners to contribute to planning and management activities in and around protected areas.

65. Work closely with aboriginal groups to explore and apply the tribal park concept to the protection of natural, cultural and spiritual areas.

Round Tables – To develop widespread understanding and social consensus on the importance of protected areas in promoting sound environmental practices over the entire Canadian landscape, Round Tables on the Environment and the Economy in all jurisdictions should:

66. Ensure that completing the protected areas network becomes a specific component in sustainable development strategies and conservation strategies.

67. Promote the use of sound conservation practices in resource management activities by all industry sectors.

Aboriginal Groups – Canada's aboriginal people have a unique role to play in both managing protected areas in their own right and in helping all Canadians to understand the cultural and spiritual significance of such areas. To contribute to the national vision for protected areas, aboriginal people should:

68. Participate fully with governments and protected area partners in identifying important and sensitive wilderness areas and landscapes that should be included in the protected areas network.

69. Help define the institutional and legal mechanisms that can ensure continuing protection.

70. Work with governments to establish common objectives and mutually agreeable criteria for selecting sites for protected areas through land-claim settlements.

Corporations – The corporate sector should contribute fully to the protected areas network. To accomplish this, corporations should:

71. Publicly support the completion of the national protected areas network by the year 2000, and the marine and freshwater network by 2010.

72. In securing land, either privately or through Crown land allocations, ensure that representative and unique natural areas are identified and protected from the impact of resource extraction.

Academia – To significantly enhance its contribution to the protected areas vision, the academic sector should:

73. Establish natural and social science research and training centres at locations across the nation to study each of Canada's natural regions.

74. Expand education and interpretation programs related to protected areas.

75. Conduct studies to assess the ecological dynamics of and socio-economic impacts of protected areas, and the criteria and methodology for long-term studies and monitoring.

8 Investing in the Vision

Economic calculation cannot comprehend things which are not bought and sold against money. What touches the human heart only and does not induce other people to make sacrifices for its attainment remains outside the pale of economic calculation.

Ludwig von Mises, economist
Human Action: A Treatise on Economics, 1963

A national protected areas network will open many channels to financial resources in both the public and private sectors. Canada faces a "window of opportunity." At present, many of the areas to be protected are on public (Crown) land, and these can be set aside at minimal cost. Inaction will only delay the inevitable, increase the cost of the program and subject governments to growing public pressure. A protected areas vision is a marketable commodity, capable of encouraging segments of society to participate in and provide resources for the network of protected areas.

Considerations in Financing a Protected Areas Network

There are many ways to invest in protected areas, and to reorient thinking so that full consideration is given to the potential of partnerships among different levels of government, non-governmental organizations, private companies, and individuals. In the financing of any initiative, however, it is important to review the context in which it will be created, the value of the protected area, and the benefits that will flow from it, including the generation of revenues.

The key points for consideration are as follows:

- the vision for a network of protected areas is another manifestation of a general trend toward holistic thinking;
- society is willing to pay for what it values, and once a priority has been established there are many ways to pay for it;
- the core value of the protected areas is the integrity of the ecosystems they represent;
- with the leadership of federal, provincial and territorial governments, the Canadian public must help to identify the areas to be protected;
- private interests operating in and benefiting from protected areas must function within strict guidelines that ensure that the integrity of protected areas is maintained;
- the overall responsibility to administer protected areas must remain with governments, as programs to develop a system of protected areas are built on many values that cannot be expressed in monetary terms; and
- a network of protected areas is a long-term social investment that will appreciate in value.

The Context

The proposed vision for a comprehensive network of protected areas in Canada, linked to an international system, provides another example of the trend toward holistic thinking.

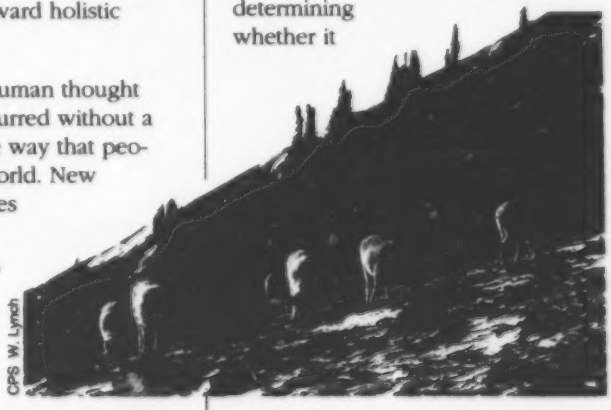
No major shift in human thought and action has occurred without a prior change in the way that people perceive the world. New knowledge precedes such change. The science of ecology, rapid transportation, space travel, computers, and communications have reinforced in the human imagination the concept of the whole earth. Ecologists bring attention to the interdependence of all life, businessmen talk of global markets, and instant information worldwide causes the human family to behave almost like a single organism.

Society is willing to pay for what it values. During the past 20 years, public concern for the environment has been steadily increasing. The network of protected areas is a fundamental step toward the protection of the environment and should bring broad public support. First and foremost, Canadians must be informed about the vision; then the cause must be presented in a way that captures the public imagination. Once the vision is embraced, an increased number of partnerships and funding mechanisms can be developed.

The Core Value of Protected Areas

The core value of any protected area is the integrity of the ecosystems it represents. An ecosystem has value quite apart from its immediate utility to people.

Traditional economics considers land to be just another factor of production, with market prices determining whether it should be used for agriculture, forestry or housing. As a result, people are conditioned to place a value on land according to economics and potential yield. This can



CPS W. Lynch

give rise to misunderstandings, such as the concept of wilderness as simply land not yet brought into production and use.

Economic calculation can be useful, however, since it can identify the costs associated with preserving the integrity of ecosystems, thus allowing people to make more informed choices. Economists are refining their ability to determine the value of environmental benefits, for example, in the case of wilderness by developing the concept of preservation values. When making choices, it is crucial to remember that the whole of an ecosystem is worth much more than the sum of its parts.

The Investment Value of Protected Areas

The formation of a national network of protected areas is a fundamental long-term commitment on the part of Canada, and a commitment that will bring dividends, both foreseen and unforeseen, for centuries to come. In a time of financial constraint, it is critical for governments to favour expenditure for investment over expenditure for consumption.

The creation of national parks and other protected areas may rank near the top of good investments made by the federal and provincial governments since the creation of Canada. The following factors have contributed to the appreciation of the investment over time: the special qualities of the sites preserved, the enhanced value of the land resulting from scarcity and inflation, the growing international reputation of some of the areas, and, the deepening human understanding of the benefits bestowed by these natural treasures.

Such valuable investments must be maintained. When an investment is made for the long term, it is possible to overlook the fact that it is a valuable asset in need of tending rather than another source of overhead. This is why core values must be identified, understood, and protected.

As a protected area becomes better known, it creates value well beyond its boundaries. For example, near Banff National Park, the transformation of Canmore from an abandoned coal mining town to a resort area over the past 30 years is due largely to its proximity to Banff. Also, many people have chosen to live in Calgary for reasons falling under the heading of "quality of life." The mountain national parks are among the foremost of those reasons.

The creation of value or wealth in transition zones around a protected area and beyond, as in the Calgary-Banff example, offers considerable potential as a source of revenue for the maintenance of a protected area. While the quality of wholeness of the core ecosystem remains the enduring and symbolic attraction, concentric transition rings can allow different levels of development around the protected areas, and more opportunities for participation by the private sector. The protected areas, however, should benefit from the profits generated by their qualities. The transition zones offer great potential for revenue generation and for the development of activities that create income without compromising the integrity of the protected areas.

The potential to develop revenue-producing services is a key determinant in attracting private capital.

J. Butler

Protected areas, and national parks in particular, are proven destinations for tourism, particularly among ecotourists and adventure tourists, with numerous benefits contributing to the region and immediate vicinity. The town of Leamington, Ontario, adjacent to Point Pelee National Park, has been shown to derive direct annual revenues of $8 million solely from bird watchers visiting the park.

The Cost of Protected Areas

A network of protected areas can be established at a reasonable cost for the following reasons:

- many candidate protected areas are on public land; these areas can be reserved now at less expense than many privately owned areas, although questions related to timber, mineral, hunting and trapping rights must still be addressed;
- partnerships with other levels of government, non-governmental organizations, the private sector and individuals can reduce federal costs or raise additional revenue; the extent of the partnership activity depends upon how well the vision is being communicated; and
- funding for establishing protected areas can be redirected from existing programs that provide incentives for unsustainable development.

Delay will only increase the cost of implementing the vision. The early involvement of all sectors of society will be the least expensive way of providing Canadians with a lasting heritage of protected areas.

Major Sources of Funding

The major sources of funding are governments and protected area partners. Any number of policies or funding mechanisms can be created. In most cases the mechanisms interact; for example, donations are affected by tax policy. The following suggestions are not exhaustive; rather, they are intended to reorient thinking and encourage ideas.

Government Sources

The most obvious source would involve the Government of Canada reorienting its priorities to provide the funding necessary to establish and maintain the integrity of ecosystems in protected areas. The Task Force on Park Establishment (1986) recommended that the Minister of Environment reallocate a minimum of 5 percent of the Canadian Parks Service's total annual budget over a five-year period to the establishment of new parks.

Additional revenue can be raised at the gates of protected areas. This can involve the earmarking of funds. In 1990, the Canadian Parks Service received permission from the Treasury Board of Canada to retain a portion of the revenue generated from visitors. This will provide an additional $30 million a year for the purpose of conservation; part of this revenue should be dedicated to a fund to establish new parks.

The Government of Canada can expand the Environmental Partners Fund. The fund was established in 1989 to encourage people at the community level to develop innovative ways of protecting the environment. The focus has been on recycling and rehabilitation projects. The partnership aspect has worked well and could be applied to communities in or near protected areas for the purpose of protecting local ecosystems. The criteria could be extended to fund research and education on species and ecosystems in protected areas.

A large percentage of the land required to complete the network of protected areas is located on public lands administered by the federal and provincial governments. As soon as possible, governments should place development moratoria on areas proposed for protection. In the long run this will be the least costly approach to completing the protected areas network.

All levels of government could cooperate to provide an expanded revenue base in support of the national network of protected areas. A surcharge could be added to fees charged at existing national and provincial parks. Municipalities that benefit from proximity to protected areas should be encouraged to earmark revenues for the maintenance of those areas and their surrounding lands.

Any number of special taxes could be created. For example, in the case of protected areas with towns or service centres, special taxes could be levied on non-essential service establishments (for example, furriers, video arcades, and so on) to discourage further development of these activities within the protected area.

Tax forms could make provision for people to check off donations for protected areas as they are filling out their income tax returns. And tax credits could be given to companies and individuals who assist in maintaining the ecological integrity of protected areas. Tax credits can also be used to encourage donations of land to governments and non-government organizations for conservation and protection purposes.

Governments can engage in land swaps, exchanging land in one area for land required to maintain the integrity of an ecosystem earmarked for protection. This would have to be done according to a formula that would prevent exorbitant payments. The exchanges would occur among the various levels of government and between governments and private owners.

Governments can match donations and investments made by private citizens and corporations for the purpose of protected area establishment, resource management or public education.

Pension funds represent some of the largest pools of capital in the country. Legislation could be

changed to encourage the investment of some of this capital in preservation land banks with the capacity to generate revenue to pay the pension funds the equivalent of the market rate of interest on long-term Government of Canada bonds. This suggestion has an attractive intergenerational aspect Younger and more vigorous people make frequent use of protected areas, and some of the revenue derived from their activities can be used to pay pensioners. Meanwhile, some of the capital of pension funds could be used to maintain the quality of the finest natural assets in the land, thereby maintaining a legacy for future generations.

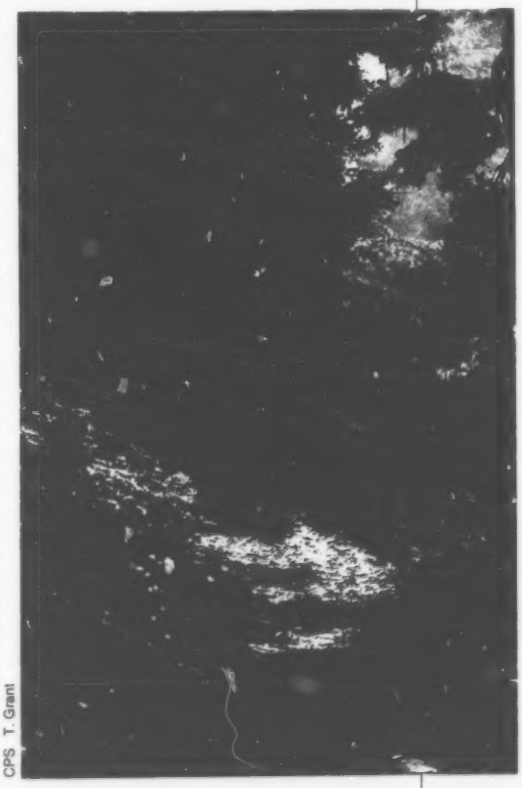
Wildlands Trust Fund

A Wildlands Trust Fund should be established to further advance the protected areas vision. The fund could support the expansion of the protected areas network on both public and private lands; it could also support interpretation/education, ecosystem management, research, community-based stewardship and the training of volunteers to assist in private stewardship programs.

The fundamental principle that should guide an assessment of the Wildlands Trust Fund proposal was articulated by the Task Force on Park Establishment – representatives of government and non-government organizations, including philanthropic groups, should examine the potential and operations of such a fund together. An earlier attempt by the federal government to establish a Citizens Heritage Fund failed because the partnership principle was not applied in its development.

The Wildlands Trust Fund should be managed by an organization established outside of government and administered by a board of trustees. Principles established to govern the operation of the fund should include the following:

- funds can only be committed to land acquisition programs where the government has provided a clear public commitment to the protection of the natural area;



CPS T. Grant

- administration or infrastructure development projects that are not consistent with the purpose of the fund should not be supported; and
- the concept of matching government funds should be considered as a funding criterion.

Revenue for the Wildlands Trust Fund could be generated from sources such as initial government grants, voluntary contributions from protected area visitors, wildlife stamp and passport books, and other ideas described earlier in this section.

Protected Area Partners

Major foundations like to operate quietly in support of worthy causes. They are likely contributors to the protected areas network.

Canadian corporations receive thousands of requests for money. Usually, the contributions are modest. Five thousand dollars would be considered a significant contribution. For a high-profile national cause, corporations might be encouraged to contribute substantially more if their names were placed on special plaques, for example, in visitor service/interpretation centres or other appropriate locations. Companies could also establish corporate partnership funds to support a range of activities in protected areas.

Most Canadians are very concerned about the environment and are willing to contribute money for the protection of natural areas. An Angus Reid poll of February 1990, conducted for the Canadian Nature Federation, indicated that 94 percent of Canadians would be willing to donate $2 per visit at the gates of national and provincial parks for the purpose of establishing new protected areas. If structures are created to collect funds for worthy environmental causes, Canadians will contribute.

Some companies and individuals might donate land knowing that it would be kept in its natural state in perpetuity, with recognition given accordingly. This can be the natural outcome of partnerships whereby private landowners and governmental officials cooperate over time for the common cause. Farm debt for nature swaps could also be created to help establish protected areas or conservation lands. This mechanism could be developed among environmental non-government organizations, private companies, farmers, and debt holders, including banks.

CPS A. Comeau

Environmental groups with a keen interest in the establishment of a network of protected areas might give a portion of their donations until the network is established. The Grasslands Trust Fund, operated by the Canadian Nature Federation and the Nature Conservancy of Canada, has assisted with the purchase of private land for Grasslands National Park.

Interest-free bonds, similar to those being planned by Wildlife Habitat Canada and the Government of Canada for the aid of wildlife habitat, could be issued to investors with the proviso that the capital would be returned to the investor after a set period of time. The capital raised by the bond issue would be invested in fixed income securities guaranteed by the Government of Canada, and the interest would be applied to the protection of wilderness areas. In effect, the investor would be donating the interest without having to note it in income tax returns.

Most private investments will occur in the buffer zones around protected areas, and the extent of that investment will depend on the amount of revenue that can be generated in the short to medium term. Regulations can help to encourage investors and entrepreneurs to observe values consistent with the need to protect the area.

Companies in the electronic media could purchase the rights to make videos of guided walks in protected areas for the purpose of education worldwide and for prospective tourists planning visits to protected areas.

These ideas, and many more, can be explored and implemented to increase the funding available to establish and maintain the protected areas network. All it takes is vision, cooperation and commitment.

Recommendations

To further build public support for financing and implementing the protected areas vision, governments and protected area partners should:

76. Actively promote the vision in all parts of Canada.

77. Conduct research on the environmental, social, economic and other values and benefits of protected areas, and communicate such information continuously through a variety of media.

To assemble the resources necessary to establish, manage and interpret the protected areas network, governments should:

78. Use existing federal-provincial agreements, such as the Forest Resource Development Agreements, to promote the completion of the protected areas network.

79. Review existing government programs that provide incentives for environmentally unsustainable activities and redirect funding for these programs to programs that work toward protected area objectives.

80. Work cooperatively with protected area partners to establish an independent Wildlands Trust Fund to expand the protected areas network and enhance ecosystem management and interpretive opportunities.

81. Commission and complete a feasibility study to explore other potential sources of funding for the protected areas network, such as tax incentives, donations, surcharges at park gates and pension funds.

82. Encourage Cooperating Associations such as the Canadian Parks Partnership to assist in raising funds to support protected area program priorities, particularly research, interpretation and ecosystem management.

9 Conclusion

CPS P. McCloskey

A concern with nature is not merely a scientific curiosity, but a subject that pervades philosophy, theology, aesthetics, and psychology. There are deep reasons why we desire a balance and harmony in the structure of the biological world and that we seek to find that structural balance, just as our ancestors desired and sought that kind of balance in the physical world.

D. Botkin
Discordant Harmonies, 1990

The establishment of Canada's protected areas network is an obligation of this generation to future generations. Fulfilling the vision will require imagination, determination and cooperation. A true partnership among protected area supporters is the foundation upon which future progress must be built.

The Need for Action

If we believe in the concept of sustainable development, then we accept the responsibility to maintain options for future generations of Canadians and, indeed, for all people on this planet. There are many aspects of sustainable development for which objectives are difficult to define and upon which it may be even more difficult to act. Not so for protected areas.

The protected areas vision is based upon a clearly defined goal – to protect a representative portion of the Canadian landscape and seascape from alteration and disruption by human activity.

The opportunity to achieve the goal is real – Canada still possesses a full range of natural areas which can be protected at a reasonable cost if we act now.

The tools are available – biogeographic frameworks, flexible protected area categories, partnerships, and a wide range of potential funding sources are available to assist in completing the protected areas network.

The deadline is approaching – significant allocations of land for industrial and commercial development have been proposed; these will foreclose many protected area options before the year 2000. The consequences of inaction for achieving the protected areas vision cannot be ignored.

There is an urgent need to act while the opportunity to do so exists, and while the goal is still achievable. The strict protection of Canada's representative and unique natural areas, their management on an ecosystem basis, and their use as vehicles to inspire personal commitments to improved lifestyles in all walks of life are central to the national sustainable development agenda.

J. Butler

The Need for Political Leadership

What we still clearly require in Canada to implement the protected areas vision is political leadership, and a dramatic increase in the number of partnerships between governments and various sectors of Canadian society. Each jurisdiction can and must provide political leadership according to its areas of responsibility. The federal government can and must promote a vision for the nation as a whole. The federal government must also lead by action and example by completing the national parks system, by managing national parks on an ecosystem basis, and by demonstrating an exemplary environmental philosophy so that the national parks serve as demonstration models for all jurisdictions.

Early public servants produced many of the nation's conservation successes. Even today, one cannot help but be impressed by the number of public servants who share a vision for protected areas and are committed to preserving Canada's remaining wilderness heritage. But without political leadership, the ability of the public service to deliver such a vision is undermined by

the crushing demands of modern bureaucracies and the lack of cooperation among the many agencies with different areas of responsibility for Crown lands.

For centuries Canadians perceived the wilderness beyond the boundary of advancing civilization as the frontier. The task was always to develop, settle and civilize the frontier.

CPS W. Wyatt

In recent years, we have come to realize that the wilderness beyond our civilized lands is a fundamental part of the planet's life support system. It is our heritage and it is essential to the Canadian identity that it endure. Rather than conquer the frontier, the task now is to integrate the protection of the remaining lands into our philosophical and economic systems.

The development of this perspective is essential if, in 50 years time, we are still to have the option to experience wild places, such as old-growth forests and tall grass prairie, to hear the cry of a loon, to see a grizzly bear, or even just to know that the wilderness lands that help define this nation are still "out there."

In 1960, American novelist Wallace Stegner termed the remaining wilderness "the geography of hope." He stated that whether we visit wild country or not, just knowing it is there, and that civilization is not all-embracing, fortifies the human spirit.

It is essential, therefore, to make peace with the planet and to preserve our nation's wilderness heritage in this decade. We must act before our opportunities to do so vanish as we enter the 21st century.

Recommendations

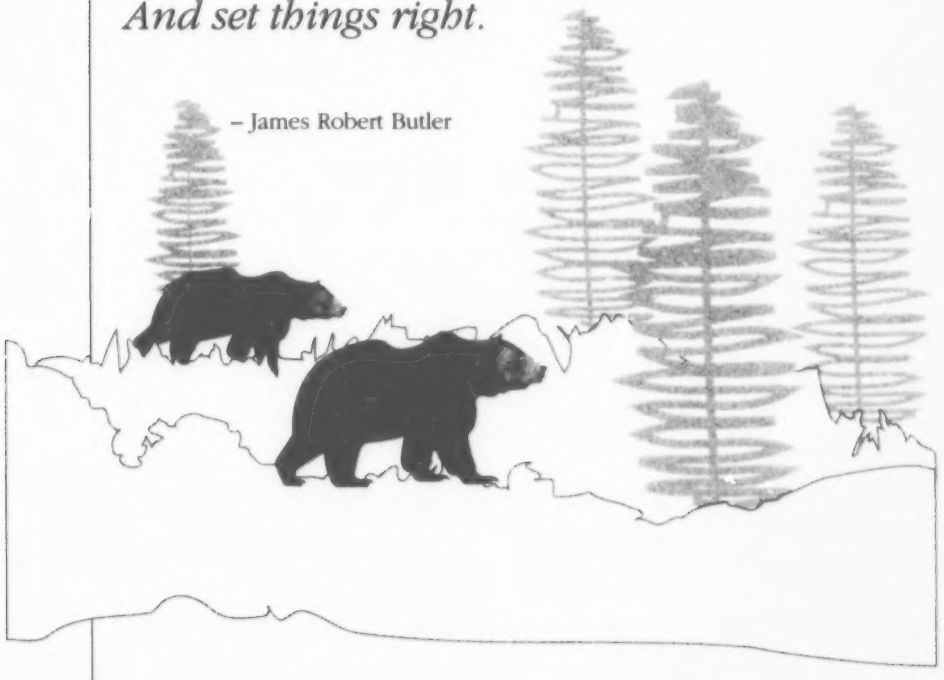
To ensure that there is momentum and sustained progress on the protected areas vision, the most fundamental requirement of all is to:

83. Strengthen political leadership, and dramatically increase the number of partnerships between governments and various sectors of Canadian society.

Two grizzlies graze
A distant slope
And while they roam
There still is hope
That wisdom might
Pervade this land
And some may come
To understand
As long as they
Are wild and free
Both land and we
Have dignity.

They are a sign
That we still might
Transcend our ways
And set things right.

– James Robert Butler



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